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is motivationally gratifying and functionally positive for social systems, the existence of these beliefs inhibit the development of empirical knowledge because the two are incompatible with each other. But these beliefs also persist tenaciously and are given serious considerations among urban population as well. With the development of science and its naturalistic interpretations, the problem arises as to why belief in magic and superstitions do not die but persist though in ever changing forms.

## B. Previous Studies

One would expect human life to increase in efficiency as there is an increase in the use of workable truths and a consequent decrease in the use of things that are not soundly supported. One aspect of this problem relates to the adherence of superstitions and unfounded beliefs. Their role in determining ideas and behavior in the modern age has stimulated many researchers.

Some early researches done in the U.S.A. on superstitions have yielded rather negative results. Conklin's work on college students of Oregon, where only one third of them admitted to being superstitious, was vitiated by a bias. In other cases, Dressler and Nixon found no systematic difference in superstitious beliefs between men and women. Caldwell, in a study of students' attitudes towards unfounded beliefs reported the extent of the influence of certain common superstitions and unfounded beliefs. For test purposes, he incorporated into the curriculum of junior high school students materials and discussions concerning these beliefs. His conclusion was that superstitious beliefs among young people were due to a lack of correct information. In another study of unfounded beliefs, Jaggers, Lundeen and Caldwell instituted a comparison between high school seniors of small towns and large cities, boy and girl school seniors and college students. Their procedure consisted in giving a course in general science administering a questionnaire of two hundred ideas on unfounded beliefs arranged in a three point scale. The results of their experiment are summed up as: city high school seniors are less superstitious than small town seniors; boys are generally less superstitious than girls; and college students believed in and were influenced less by the superstitions than high school students. In still another study, Gilliland and Fenton examined the common superstitions and prejudices of college students in different classes after they had a course in Psychology. It was found from their results that students receiving good grades in Psychology had low scores in superstitions whereas those who received poor grades had high scores.

But such work was more in the nature of unfounded beliefs than superstitions. In so far as an essential part of a superstition involves an element

of fear, all superstitions are not equivalent to unfounded beliefs. Although unfounded beliefs would be greatly affected by scientific training, superstitions may not be so amenable to change. Perhaps, that is why even after modern science has proved many of the superstitions to be disfunctional, they have not altogether died. Besides, it is yet premature to rely on transfer of training for producing a desirable effect on superstitious beliefs at this stage by accepting the above contention that a course in science or Psychology can irradicate superstitions. Finally, it can be said that the prime object of these prior studies was to observe the increase in scientific attitude after students had some course work in sciences. These were only indirectly aimed at enquiring into the students' attitude towards superstitions.

## C. Procedure

A random sample of 170 students from the Ravenshaw College and another 30 from Christ College was drawn from Cuttack of Orissa, where they received their college education in an Indian University. Distributed in six years or grades, they were all male and Hindus. They lived in the city of Cuttack for six months of the year during which they spent their time in attending lectures, doing laboratory work, participating in sports and games and attending cultural meetings. For the rest of the year, they visited their parents in the village homes on vacation. The state of Orissa in which Cuttack is the only city, consisted of small towns and villages. They differed from each other in the distribution of population, suitable educational, transportational, recreational or other amenities of modern life. Since they are nearer to one another, they are interdependent. Many families owned a flat in the town and an ancestral home in the village. The per capita income of an average Oriya family being $50.00 per annum, a majority of the families depended upon their ancestral home for obtaining rice and cereals to supplant their scant income. The students generally came from the two socio-economic groups of farmers and service holders. The traditional Oriya village abounds in social and religious festivals and ceremonies, the impact of which is still traceable in towns and in the city as well. As such, the three categories of places also interlace with each other in the flow of ideas.

The design of the test consisted in preparing a questionnaire of one hundred superstitions. They were broadly divided into four classes: as they pertain to one's own self, to other's self, to animate and inanimate objects. The students' reactions were recorded on separate answer sheets, one for their beliefs and another for their practices of these superstitions. They were further asked to record such informations as the subject they are majoring in, their

place of residence before and after entering the college, and the nature of their parents' or guardians' occupation.

The present study had the objective of finding out the extent to which superstitious beliefs and practices among Indian college students are influenced by higher or college education. Some of the general questions raised in this research are:

1. As boys go from undergraduate to graduate classes,
   a. Does their belief in superstitions decrease, increase or remain the same?
   b. Are their practices of these superstitions similarly affected?

2a. Is there any difference in the belief in and practice of superstitions of arts students from science students?
   b. Are village students more superstitious than town students?
   c. Are students belonging to the farming class more superstitious than those of the service classes?

## D. Analysis of Data

Table 1 shows the mean scores of superstitious beliefs and practices of each class of students. The lower scores in belief and practice of the first year students is followed by an increase in the second, third and fourth and a decrease in the final year. The belief scores, compared with one another, show no significant increase or decrease. Similarly, the practice scores in all the classes, when compared, show no definite increase or decrease.

The students' T-test results, regarding the test of significance between practice and belief of superstitions of students under seven out of the eight background characteristics, were all negative. There was, however, one exception as noted in the next table.

Reading the mean scores from Table 2, where the students were divided according to whether their guardians are in farming or in service, we note that there is no regular pattern of increase or decrease in belief of their superstitions. However, the T-test results indicate that in the case of first year students, the difference between students coming from the farming class as against those of the service class is statistically significant.

Table 3 shows the grand mean scores for the belief and practice of all the two hundred college students contained in each cell of the eight background characteristics. We note for each characteristic the grand mean of the belief scores. That is, the observance of superstitions among students have regularly and consistently been diminished. Thus for example, science students observed less superstitions than they believe; arts students practice less superstitions than they believe; students coming from towns observe super-

stitions less than what they believe and students whose guardians belong to the farming class practice less superstitions than they believe and so on.

It is interesting also to note that for science students, the sharpest discrepancies between their beliefs and practices of superstitions occur in the

TABLE 1
MEAN SCORES ON BELIEF AND PRACTICE OF SUPERSTITIONS BROKEN DOWN BY CLASSES

| College classes | I | II | III | IV | V & VI |
|---|---|---|---|---|---|
| No. of students | 73 | 23 | 44 | 30 | 30 |
| Belief | 17 | 21 | 21 | 25 | 20 |
| Practice | 17 | 21 | 14 | 19 | 10 |

*Chi Square Table Belief*

| College classes | I | II | III | IV | V & VI | Total |
|---|---|---|---|---|---|---|
| Scores above the median[a] | 30 | 12 | 24 | 21 | 13 | 100 |
| Scores below the median[a] | 43 | 11 | 20 | 9 | 17 | 100 |
| No. of students | 73 | 23 | 44 | 30 | 30 | 200 |

Median = 17
Total No. of students = 200
Results of Chi Square = 7.30 or .85
Not significant

*Chi Square Table Practice*

| College classes | I | II | III | IV | V & VI | Total |
|---|---|---|---|---|---|---|
| Scores above the median[b] | 41 | 14 | 20 | 17 | 9 | 101 |
| Scores below the median[b] | 32 | 9 | 24 | 13 | 21 | 99 |
| No. of students | 73 | 23 | 44 | 30 | 30 | 200 |

Median = 11
Total No. of students = 200
Results of Chi Square = 7.83 or .91
Not significant

higher grades in the fifth and sixth years while for the arts students, the sharpest discrepancies occur earlier.

In addition, it was thought that there may be a relation between the belief and the practice of superstitions among the students receiving higher education. Accordingly, an attempt was made to observe if there is a correlation between the two. Results obtained with T-tests, are +.08 for the first year, +.05 for the second, +.04 for the third and .0 for the fifth and sixth classes of students, showing thereby that there is no correlation between their beliefs and practices.

place of residence before and after entering the college, and the nature of their parents' or guardians' occupation.

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# SUPERSTITIONS AMONG COLLEGE STUDENTS IN INDIA*

*Department of Psychology, Ravenshaw College, Cuttack, Orissa*

GURUPADA PARIDA

## A. INTRODUCTION

Belief-systems are of two forms—empirical and non-empirical. Superstitions or magic of the latter kind are the irrational attitude of mind towards nature, god or supernaturals, that have the power of affecting its well-being. These beliefs which fill the gap in positive empirical knowledge are scientifically inadequate empirical beliefs termed as pseudo-science.

Superstitions are held in common in all lands and among all races from the earliest time to the present. They no doubt change their forms from time to time or from society to society. In modern society, for example, these are associated with spilled salt, a broken mirror, passing under a ladder, the new moon seen through the glass, with the number three, with Friday and so on. In large cities of Europe and America magic can be purchased from astrologers, palmists, and clairvoyants. Similarly, belief in magic is strongly reinforced when there is danger of accident. Many pilots refuse to take passengers wearing anything green or to light three cigarettes with a single match-stick while in the air. In the East, coconut is broken to assure a ship's safety in the sea.

These superstitions have played a significant role upon men. For the attainment of knowledge gives man the possibility of planning ahead, of embracing vast spaces of time and distance and making an allowance for a wide range of his hopes and desires. There remain, however, unexpected events that result in a swift turn of personal fortune which man is unable to explain or control and for which he must seek relief in a magical explanation. In an underdeveloped society, there are sharp restrictions on the development of empirical knowledge and its acceptance because of the presence of urgent practical needs of the people. The prevalence of magic, therefore, is associated with an element of uncertainty in the success of practical endeavour. But precisely because magic or superstitions provide a non-empirical cognitive orientation to the situation, which

* Received in the Editorial Office on November 28, 1960 and given special consideration in accordance with our policy for cross-cultural research.

## E. Discussion

The experimental results can be examined under the following categories of questions: (*a*) Do college students still believe in superstitions? (*b*) Is there any differential tendency to believe them among students in different classes? (*c*) Is there a tendency for students to observe greater or fewer of these superstitions as they advance in the college? (*d*) Is there a differential tendency to believe or practice according to the background of the students?

TABLE 2
Mean Belief Scores of the Students Whose Guardians Are in Farming-Service Class

| Characteristics | I yr. class | II yr. class | III yr. class | IV yr. class | V yr. class | VI yr. class |
|---|---|---|---|---|---|---|
| Farming | 13 | 20 | 20 | 30 | 33 | 8 |
| Service | 20 | 21 | 22 | 21 | 13 | 23 |
| Farming-service | 2 | .05 | .14 | .56 | .95 | .68 |

TABLE 3
Grand Mean for Belief and Practice of All the Students Under Each Selected Characteristic and the Results of the Students' T-Test About the Difference Between the Two

| Characteristics | Science | Arts | Village | Town | Farming family | Service family | Village family | Totals |
|---|---|---|---|---|---|---|---|---|
| Belief | 25 | 20 | 19 | 21 | 19 | 20 | 20 | 19 |
| Practice | 19 | 16 | 14 | 17 | 17 | 16 | 17 | 13 |
| Belief-practice | .22 | .19 | .20 | .17 | .08 | .17 | .13 | .24 |

With regard to the first, it is noticed that the students' beliefs fluctuated from class to class. The students in the higher classes believed as much or even more than those in the lower classes. This result that superstitious beliefs are found to a relatively similar extent in all college students is similar to the findings reported in studies carried in the United States.

It appears that to entertain some such beliefs is not detrimental to mental life, even after they have been proved disfunctional by science and philosophy. The human mind being imperfect in nature, while it subsumes the newly acquired ideas of science and reason, is prone to forsake the old. Obsessed by the problem of family well-being, physical fitness, death, man falls into the grips of phenomena furnished by his intellect during critical moments of great anxiety, the lower or emotional stratum of mind imposes a will of its own. This retention of beliefs in superstitions among college students is further reinforced by the impetus it receives during early socialization.

Although as a result of increased exposure to college educaton belief in superstitions does not appear significantly affected, the observance is somewhat diminished. This agnosticism toward the practice of superstitions may be observed for each of the selected background characteristics.

So much for the positive results of the experiment.

The experiment has resulted in a number of negative findings. For example, an examination of the grand means indicates that generally no significant differences have been noted between the beliefs and practices of students with different backgrounds or academic interests. Similarly, no statistically significant differences were noted between students in different years in college. These results are in part explainable in terms of the peculiar social environment in which the college students lived. Earlier we indicated that the villages and towns from which the students came were practically the same. Even Cuttack city, where students live during their college training, is strongly influenced by the ideas which the uneducated villagers bring in as they flock to attend the religious and cultural festivals. The students, during their childhood have heard myths and stories from their grandparents and mothers; they have participated in the family festivals, worship of gods, fastings etc., that are still current in the Oriya families.

## F. Concluding Remarks

The research raises some questions as to what period in a student's life attitude changes towards superstitions may optimumly be studied. Perhaps by the time a student reaches college, he becomes a poor respondent for such an investigation in that many of his beliefs and attitudes have been already internalized, through implicit learning from family surroundings. It is therefore to the school level that we should turn for studying the problem of attitude changes towards the belief-systems.

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# SOCIAL CLASS DETERMINANTS OF PERCEPTION AND ADJUSTMENT IN AN ADOLESCENT AND ADULT SAMPLE: EL SALVADOR* [1]

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## A. PROBLEM

Fundamentally there are three questions raised in this paper on two samples of Salvadorean population. One question refers to the influence of class position on the perception and judgments an individual imposes on various phenomena, including the class system itself. Another problem, and one that will be treated only marginally in the present study, is whether the perception or cognitions the individual makes in relation to various situations may be an index of his own adjustment level. Finally, there is the problem of the limitations of the questionnaire or interview technique in the measurement of feelings and attitudes in a different cultural setting than the usual western areas in which these instruments have generally been used.

The general working hypotheses relating to the study are: (*a*) The middle class subject has a different perception of class belongingness in that he assumes himself in a higher position in the class structure; he perceives a higher percentage to be in the middle and upper class and a higher amount of income required in order to be a member of a given stratum than does the lower class subject. In other terms the middle class individual perceives class in a different frame of reference than does the lower class. Or, his class position together with his need system affect his perceptual process, as hypothesized by Bruner and Goodman (1). (*b*) The middle class individual will perceive marriage and certain adjustment processes differently from the lower; he will estimate a larger number of individuals and marriages to be happier than will the lower class. Furthermore, this projection of happiness or unhappiness in others is a measure of his own adjustment, although the analysis of this problem goes beyond the scope of this paper. In addition, the middle class individual is more present- and future-oriented whereas the lower class is more past-oriented.

* Received in the Editorial Office on December 27, 1960, and given special consideration in accordance with our policy for cross-cultural research.

[1] The present study was initiated while the author was a visiting Smith-Mundt professor at the University of El Salvador, 1958-59.

The present paper reports the results of two studies. Both studies are concerned with the larger question of the nature of urban Salvadorean culture, however the present discussion is directed to class determinants in perception and attitude formation. This paper is based on the results of Group A, a questionnaire which was administered to 352 upper-lower and middle class adolescents in public and private secondary schools on selected background and attitudinal items; and Group B, a survey with an interviewing schedule of 71 lower class families and 27 middle class families. While the two studies posed somewhat different questions there were certain overlapping focal points.

The joint study is of contemporary significance as El Salvador, like much of *mestizo* America, is in a state of transition. It is an underdeveloped country with a feudalistic class system based on marked inequalities in the distribution of income and is the country with the highest population density on the two American continents as variously described in Crevenna (2), Smith (6), and Williamson (8). What there is of a middle class society is to be found almost exclusively within its capital, San Salvador, and one or two other cities.

Possibly the most unique aspect of the present studies is that they test the use of the questionnaire and interview method in a culture in which such instruments are distinctly alien. In the initial phases the author regarded the survey as little more than a pilot study, but as the project was continued it appeared that reasonably valid results were being obtained. At the very least, different results were obtained in the two classes.

## B. The Subjects

### 1. *Group A*

The upper-lower to lower-middle class sample consisted of 99 males and 90 females; the upper-middle class sample of 84 males and 79 females in the capital, San Salvador. These will be known respectively as the "lower" and the "upper." The former were attending public schools and the latter were in private religious schools. The median age was 17.8 with fifteen per cent reporting no father in the household. Some of the social characteristics of the two samples are found in Table 1.

### 2. *Group B*

The adult sample consisted of respondents in two suburbs of San Salvador: 71 households in lower-class Villa Delgado, and 27 households in upper-class La Rábida. Table 2 reveals some of the socio-economic data of the

TABLE 1

SELECTED SOCIAL CHARACTERISTICS IN THE ADOLESCENT SAMPLES*
(N = 352)

| | "Lowers" N = 189 | "Uppers" N = 163 |
|---|---|---|
| Median age | 18.2 | 17.3 |
| Median siblings | 4.3 | 2.3 |
| Median Family income | $164 | $580 |
| Fathers' Occupations: | | |
| Proprietors and managerial | 7.2% | 71.2% |
| White Collar and commercial | 52.6% | 23.3% |
| Manual labor | 29.6% | 0.7% |
| Miscellaneous | 10.5% | 5.4% |
| Respondents reporting death or desertion of father | 19.7% | 8.0% |
| Attending church once per week or oftener | 71.4% | 98.1% |
| Attending movies once per week or oftener | 48.6% | 69.4% |

* All financial data are on the basis of the Salvadorean *colon* at $0.40 U.S. currency.

two areas. Occupationally the male sample was approximately 50 per cent manual workers and 22 per cent lower white collar. The middle class was predominantly upper white collar and professional. The style of living ranged between two extremes, from the huts and tenements (*mesones*) to the five or six room homes of *norte americano* proportions. The social world

TABLE 2

SELECTED SOCIAL CHARACTERISTICS OF THE ADULT SAMPLES

| Medians | Villa Delgado N = 71 | La Rábida N = 27 |
|---|---|---|
| Age of male household head | 44.9 | 37.7 |
| Age of female household head | 42.5 | 32.0 |
| Size of household | 6.6 | 4.5 |
| Education of adult males in years | 3.1 | 10.5 |
| Education of adult females in years | 2.9 | 9.4 |
| Monthly income of principal earner | $62.00 | $210.00 |
| Monthly family income | $78.00 | $260.00 |
| Monthly amount spent on food | $36.00 | $ 70.00 |
| Number of rooms in house | 1.9 | 4.0 |

of Villa Delgado displayed the limited horizons described in other lower class cultures as in Knupfer (4). More serious, many homes in Villa Delgado were characterized by poverty, unemployment, marriage dissolution, and alcoholism. Both subcultures suffered from the inability of income to keep pace with inflation.

## C. Procedure

### 1. *Adolescent Sample*

Four public and four private secondary schools (which account for most of the secondary education in the city of San Salvador) were selected as the universe to be tested. The fact that the private schools were religious in orientation undoubtedly influenced the results; however it is believed that the differences between the two adolescent groups were mainly of class and only secondarily reflected the secular and the religious.

Within each school, fourth and fifth year classes were selected because the level of abstraction of the questionnaire made it unlikely that lower level students could comprehend the items. The author presented the four page questionnaire to the students, who responded to the questionnaire with a minimum of difficulty despite the strangeness of attitudinal studies in Central American culture.

### 2. *Adult Sample*

The Villa Delgado and La Rábida samples were selected on a relatively random basis: every fifth house beginning from the corner on representative streets of the two areas. The eight-page questionnaire was administered by an interviewer (one of six interviews being accompanied by the author) the respondent generally being the female head of the household. There was some question as to the validity of items on income because of the apparent anxiety that the interview might be undertaken by the government for purposes of raising revenue. It is possible, too, that some items, for example, religious behavior might have received inflated results, but on the whole the responses appeared to be consistent with the character of Salvadorean life. The presence of the author did not appear to affect the validity of the interview. Confidential items did not generally encounter the resistance found in our culture.

## D. Results and Discussion

While both investigations had the purpose of examining urban *mestizo* life in a Central American environment, this paper is mainly concerned with the relation of social class to selected variables.

### 1. *The Perception of Class*

The question "What per cent of the population is in each of the three classes?" yielded no significant differences between the "lowers" and the "uppers." Both groups estimated the lower class as numbering roughly 60 per cent; middle, 30 per cent; and upper, 10 per cent. These figures may

be compared with the author's own estimates of the San Salvador population as 75, 23, and two per cent respectively. However, the subjects were mainly in contact with middle and upper levels of the community so this calculation is not surprising.

Class position was clearly demonstrated in replies to the question "What monthly amount is qualifying for each of the three classes," as shown in Table 3 ($p < .001$).[2] When the subjects were asked as to the class position they occupied at present and what they expected to occupy at the end of 10 or 15 years, the responses (Table 3) seem valid for the present. On the other hand, the future projections were unrealistic despite the explicit

TABLE 3
PERCEPTIONS OF CLASS IN THE ADOLESCENT SAMPLE

| | | "Lowers" | "Uppers" |
|---|---|---|---|
| Amount of monthly income "required" for membership in a given social class: | | | |
| | Lower | $ 76 | $124 |
| | Middle | $164 | $392 |
| | Upper | $500 | $800 |
| Per cent indicating present class position: | | | |
| | Lower | 17.6% | |
| | Middle | 82.4% | 74.1% |
| | Upper | | 25.9% |
| Class position expected at end of 10 or 15 years: | | | |
| | Middle | 57.7% | 21.9% |
| | Upper | 42.2% | 82.1% |
| Choosing "professional" versus "white collar" and clerical positions: | | 29.8% | 62.5% |

wording of the question, which requested the subject to take into consideration his educational goals. Certainly the choice of professional careers ($p < .001$) was a function of class position. While the "lowers" were predominantly planning for teaching, accounting, and pharmacy, the "uppers" were principally attracted to engineering, architecture, medicine, and dentistry.

Regarding *occupational status* there has been almost universal agreement in the prestige ratings of various occupations, as by the National Opinion Research Center (5), Inkeles and Rossi (3), and Tiryakian (7). In the present study the adolescent subjects were asked to rate twenty occupations as to whether they belonged to lower, middle, or upper class. Table 4 presents the ratings, which correspond closely to the results of other intra- or cross-national surveys. Probably the most notable exception was the high rating given to army officer—a not surprising result in a country that has

[2] The test for significance for all items is the chi-square.

TABLE 4
ADOLESCENT RATINGS OF OCCUPATIONS

*Upper*
1. Engineer
2. Doctor
3. Lawyer

*Upper middle*
4. Dentist
5. Government official
6. Army officer

*Middle*
7. *Professor* (high school or college teacher)
8. Journalist
9. *Maestro* (elementary school teacher)
10. Clerk

*Lower middle*
11. Farmer
12. Policeman
13. Salesman
14. Artist

*Lower*
15. Mailman
16. Cabinet Maker
17. Barber
18. Butcher
19. Cook
20. Servant

had a series of military presidents. Also noteworthy is the downgrading of the academician in relation to the directly manipulative individual, such as the engineer and dentist. This higher rating given to the man who can demonstrate a kind of physical power may be one of the results of a quasi-frontier society and is reflected in differential financial reward. It may be added that in the ratings of the twenty occupations there was no significant difference either by class or sex of the respondents.

Somewhat different questions regarding class were presented to the adult sample. For one, these subjects were asked to rate themselves and their friends according to their perceived class affiliation, low, middle, and high. Of the Villa Delgado subjects, 70.6 per cent rated themselves lower class, 80.6 per cent identified the neighborhood as lower class, but only 54.3 per cent labelled the majority of their friends and acquaintances as lower class. This apparent confusion of reference group and membership group may be understood as a means of ego-expansion and possibly as a variety of vicarious upward mobility. However, the finding seems not too meaningful in view of the extremely limited social contacts within Villa Delgado. In La Rábida there was a high degree of status consistency, namely friends and acquaintances were identified almost entirely as middle-class.

### 2. *The Individual's Adjustment to Marriage and the Social System*

It is the author's position that the individual's adjustment may be revealed by his projection of happiness to others, both as individuals and in marriage. The results of perception of happiness or adjustment (Table 5) elicited class differences as well as sex differences particularly among the

TABLE 5

ATTITUDES TOWARD MARRIAGE AND PERSONAL HAPPINESS

| | | "Lowers" | "Uppers" |
|---|---|---|---|
| Median preferred age for marriage: | Male | 29.1 | 26.1 |
| | Female | 24.2 | 21.5 |
| Median preferred number of children: | Male | 3.2 | 3.8 |
| | Female | 3.5 | 4.5 |

*Per cent of marriages estimated to be "happy"*

| | Adolescents | | | | Adults | |
|---|---|---|---|---|---|---|
| | "Lowers" | "Uppers" | Total Male | Total Female | Villa Delgado | La Rábida |
| 0-20% | 60.5 | 38.1 | 36.2 | 67.6 | 58.6 | 19.2 |
| 20-40% | 11.3 | 18.5 | 16.5 | 12.4 | 18.6 | 40.7 |
| 40% or more | 28.2 | 42.6 | 47.2 | 20.0 | 22.8 | 38.4 |

*Per cent of individuals estimated to be "happy"*

| | Adolescents | | | | Adults | |
|---|---|---|---|---|---|---|
| | "Lowers" | "Uppers" | Total Male | Total Female | Villa Delgado | La Rábida |
| 0-20% | 39.4 | 22.1 | 27.8 | 35.0 | 16.9 | 3.8 |
| 20-40% | 26.9 | 22.1 | 22.2 | 28.8 | 32.4 | 30.8 |
| 40% or more | 33.7 | 55.8 | 50.0 | 36.3 | 50.6 | 65.3 |

adolescent sample. In estimating the per cent of marriages that are happy the least negative results were expressed by upper males, followed by lower males, then upper females, and the most unfavorable results were by the lower females ($p < .05$). The nature of Latin American marriage with its accompanying low status for the wife may explain these results. It is conspicuous that the ratings for individuals, as opposed to marriages, demonstrate a somewhat less unhappy situation, but the same pattern in ratings between the sexes and classes holds. The residents who were mostly housewives of Villa Delgado and La Rábida maintained the same unfavorable projection in their ratings of marriages ($p < .10$) and individulas ($p < .20$) as the adolescent, but not as significantly.

However pessimistic their outlook of marital life, most of the adolescent subjects revealed their anticipation of entering marriage. Yet there was a class difference in the preferred age of marriage. Despite the higher occupational and thus more lengthy educational preparation, the upper middle class looked forward to earlier marriages as well as a larger number of children. Undoubtedly the somewhat happier images of their parents' marriages, the expectancy of economic aid from their own parents, and the more orthodox religious training were all factors in this finding. The preference of the girls for more children again demonstrates the importance of sex differences in

Salvadorean culture as well as less emphasis on career orientation as compared to the role of the female in our culture.

### 3. *The Individual's Image of the World*

Whatever the optimism on marriage plans, the item "Do you believe the world will be happier in twenty years than it is at present; much happier, somewhat happier, a little happier, about the same, or less happy?" revealed a rather negative attitude. Of the "lowers," 23.3 per cent answered "somewhat" to "much happier," 25.4 per cent maintained "less happy," the remainder of the responses being "about the same" or "slightly more happy." For the "uppers" the per cents were 20.7 and 32.9 respectively. In both classes the differences were not significant. Among the factors that may have influenced this apparent pessimism of the "uppers" is the religious orientation of the private schools, which tend to "downgrade" the present and future. Possibly this regressive tendency is attributable to the declining influence of the church in some parts of Latin America. Religious authorities in Central America have often deplored the encroachment of American materialism on one side and what they considered the still greater danger of Marxist materialism from the other side. It is difficult to determine to what extent the students were influenced by their religious teachers.[3]

The differences in the adult sample were in the opposite direction, namely the lower class was more pessimistic about the future than was the middle class. In addition, they were asked about the past and reacted with marked nostalgia. Of the Villa Delgado sample, 59.0 per cent thought that the world would be happier in twenty years than at present; and 79.5 per cent stated that the world was happier "a hundred years ago" than at present, the remainder of the responses replying "less happy" or "about the same" as at present. The middle class judged the present as more benign, but the difference between the two classes in this response was not significant. To many Salvadoreans of both lower and middle class the past must somehow have been better than the present or at least represented a less overpopulated world. The future for many subjects was to be marked by international disaster, more economic pressures, more population density, and continued moral degeneration, to paraphrase some typical responses.

In explaining these findings it is desirable to explore the social pressures that operate in Central America. Undoubtedly, the most pervasive influence is the maldistribution of wealth by which only a portion of the population

[3] A more complete discussion of the responses of the adolescent sample to the religious items may be found in Williamson (9).

has adequate income. When asked to what degree the subjects were satisfied with their economic situation, 70.7 per cent of the "lowers," as against 17.4 per cent of the "uppers," stated "slightly" or "not at all" ($p < .001$), the remainder replying "somewhat" or "very satisfied." The respective per cents for the adults were 89.4 and 69.2 ($p < .01$).

One factor influencing the judgments of the two groups, lower and upper, is the degree of urbanism that distinguishes the two classes. While the problem of urbanism is too vast to examine in this paper, one factor is the mass media, to which the middle class has wider exposure (Table 1). Especially the motion pictures have high stimulus value in the Latin American's image of the outside world. The striving toward upward mobility, so characteristic of middle class, is believed to be in part inspired by the Hollywood product. American movies and to a lesser extent European films were preferred by middle class adults as opposed to the preference for Latin American or Mexican pictures by the lower class ($p < .001$). One factor is the linguistic ease of listening to Spanish instead of reading subtitles. Moreover, the cultural world is more familiar to the Salvadorean in a film produced by a neighboring country. The enthusiastic preference for non-Latin films in the emerging middle class is likely symptomatic of social change.

## E. Summary and Conclusions

The purpose of this study was to examine differences in social perception between the lower and middle class and the varied responses the two classes might have toward marriages, careers, and personal happiness. The paper has reported on the findings with two populations, adolescents and adults, each divided into a lower and upper group. The adolescents and adults were examined by a different questionnaire.

Specifically, the more important findings (all of which refer to the adolescents unless otherwise stated) were: (*a*) There were no significant differences between the "lowers" and "uppers" in estimating the percentages of the population belonging to the different classes, low, middle, and high. (*b*) The "uppers" significantly estimated a larger income as necessary to be a member of any given class. The finding would tend to confirm the Bruner and Goodman hypothesis that perception is a reflection of the individual's need system. (*c*) Prestige ratings of twenty occupations were in general agreement with ratings of various cultural samples, and showed no class nor sex differences. (*d*) "Happiness" ratings of individuals and marriages resulted in the "lowers" giving significantly lower ratings, with

the female ratings lower than those of the male. Individuals were rated as less unhappy than the marriages. Similar differences were found in the adult sample, but not significantly. It remains a mute point whether the projection of happiness to other individuals or situations is a reflection of the respondent's own adjustment or not. (*e*) The upper class, more than the lower, rated the future as less happy than the present but the difference was not significant. Of the adults, the lower class was more pessimistic than the middle class, and more nostalgic about the past; again the difference were not significant.

One inadequacy of this study is the failure to test the Salvadorean adult upper class, which is a small but very influential part of the population. The upper stratum, in contrast to the middle classes, generally prefer to educate their secondary and college age children abroad, formerly in Europe and more recently in the United States—and this would include the American School in San Salvador.

Methodologically the results of the adolescent sample were more meaningful than those of the adult group as the former were responding directly and anonymously to a questionnaire, whereas the adults were approached through an interview, which permitted the influence of the interviewer. It is possible, too, that differential levels of literacy may have made the questionnaire more valid in the younger group than for the adults. There was a particularly difficult problem of communication among the Villa Delgado subjects. But whatever the limitations of the survey, the use of questionnaire and interview was apparently successful in an area previously considered off-limits to these instruments. This is not to say that some of our subjects did not give invalid responses. To a number of professional observers the lack of integrity so frequently found in some parts of Latin America, together with indifference to certain areas of the behavioral sciences, would make the exploration of social perception on a hazardous procedure. It would appear from the present survey that such a generalization is unwarranted. Instead, a genuine need exists to extend the study of attitudinal and other behaviors as determined by class, regional, or other subcultures. Cross-national comparisons, both within Latin America and between the area and other parts of the world, will be most welcome.

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# A STUDY OF INDIAN STUDENTS' ATTITUDE TOWARDS THE MOTION PICTURES*

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## A. INTRODUCTION

The influence of motion pictures on contemporary culture is obvious. It reflects the attitudes, values, and habits of the society in which it operates, and is also one of the main avenues through which the basic belief systems of the society are changed. Its effect on the personality organisation of the people is very great. This is all the more true in a population in which literacy is low, as in India. Thus motion pictures deserve serious consideration for their effects on mental health. Effective changes must be introduced to make films more realistic, constructive and educational. Therefore, it becomes necessary for the social psychologist to study the attitudes of the people towards the current films, as any formation of effective programme of change presupposes an understanding of the attitudes of the people concerned.

One of the pioneer attempts in the field of measurement of attitude towards the motion picture was made by Thurstone (3). Williams (5) later on applied Thurstone's Movie Attitude Scale to a group of 100 Teacher College Students and reported a sex difference in the attitudes of students towards the motion picture. Both boys and girls in his study showed rather favorable attitudes.

Patel (1), in India, investigated this problem on 156 adolescent pupils —109 boys and 47 girls, between 15 and 18 years of age, studying in Class XI of secondary schools of Baroda, by using a Likert type scale. This scale consisted of 10 statements relating to films. The results showed that boys and girls differed from each other in their attitudes towards films. The boys were found to be favorably inclined towards the films and the girls showed unfavorable attitudes towards them. But no attempt

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was made to find out the significance of this difference in the attitudes of boys and girls. Moreover, the sample was small and based on only students of Class XI.

Except for these, nothing else seems to have been done in the concerned field. Hence, the present study has grown out of need for research in this area.

## B. Problem

From the limited studies in this field it is obvious that there is no proper attitude scale for measuring the attitudes of people towards the films. Thurstone's Movie Attitude Scale was constructed nearly three decades ago, after which significant changes in the film world and the tastes of people have taken place. Therefore, an attempt has been made in the present study to construct a Movie Attitude Scale of Thurstonian type and to apply the scale to a sample of Indian student population in order to prepare a cross-cultural study of attitudes towards the motion picture.

Sex is an important variable in shaping and directing the attitudes, and there has been a long standing impression that the biological imprint of the sex is responsible for creating difference in attitudes towards an issue in question. Does it hold true in case of Indian men and women who are supposed to be more orthodox, tradition bound and backward compared to the people of Western countries? An understanding of their attitudes will provide us with a better index of the influence of sex than any such theoretical assumption. Intellectual maturity, like sex, is another variable which affects the attitude of the students. Difference in educational level, therefore seems likely to manifest itself in evincing difference in attitudes towards the films. From this springs the next variable, the chronological age of the students, which has a differential effect on the development of attitudes towards any object, person, or issue. Therefore, it is imperative to know how far sex, educational level, and chronological age of the students influence their attitude scores; whether the male and female students differ significantly in their attitudes towards the motion picture and so on.

More specifically the aim of the present study is two-fold: Firstly to construct a scale for measuring attitudes towards the motion picture. Secondly to find out the attitude of higher secondary and college students in general, towards the motion picture and to see the difference if any, in the attitude scores of the: (*a*) male and female students; (*b*) students of different educational levels; and (*c*) students belonging to different age groups.

### C. Construction of Attitude Scale

A set of 38 statements that expressed some kind of opinion about the motion pictures was formulated. These statements were then given to 100 judges, as is usually done, following Remmers (2). The judges were teachers in colleges and students in the post-graduate classes of Utkal University. Each judge was asked to sort out the opinion statements into one of the five piles written against each statement. It was further made clear that one's opinions should play no part in judging the statements. Following Woodworth and Schlosberg (6), the authors defined the five positions in terms of equal units, such as: Most favorable, Favorable, Indifferent, Unfavorable, Most unfavorable. This was done with the assumption that the judges will get a stable reference point for their judgments as they are not experts in attitude measurement and had least idea of psychological tests.

Then the scale values (Median) and Q, were calculated for each statement, from the distribution of judgment scores. The final attitude scale was then constructed taking into 30 statements which had low Q values and whose scale values covered the entire scale. The scale values, Q, for each of the 38 statements are presented in Table 1.

### D. Measurement of Attitudes Towards Motion Pictures

#### 1. *Questionnaire*

The final form of questionnaire was divided into two parts. Part I dealt with collecting personal data such as—sex, educational level, age, etc., and Part II was the attitude scale proper. The 30 statements selected finally, were presented to the students in a scrambled order in regard to their scale values. The students were instructed to read each statement carefully and write "yes" against the statement that expresses their attitudes and "no" against the statement with which they do not agree. This procedure elicits the same attitude that would have been obtained by asking them to endorse the statements with which their opinion coincides as used by Thurstone and Chave (4). In order to avoid the conscious distortion of responses, the students were instructed not to write their names in the questionnaire. The students' attitude scores are then taken to be the mean scale value of the statements to which a student has answered "yes." A mean of the scores was then calculated for separate groups.

In order to test the reliability of the questionnaire the authors split the questionnaire into two equal halves following Thurstone and Chave (4). The calculated reliability by Spearman Brown Prophecy formula was found to be .84 which is fairly high.

TABLE 1
SCALE FOR MEASUREMENT OF ATTITUDES TOWARDS THE MOTION PICTURES

| No. | Statements | Scale values | Q |
|---|---|---|---|
| 1. | Going to films is a foolish way of spending money. | 4.39 | .555 |
| 2. | The films are bad for children.* | 3.87 | .594 |
| 3. | Young people learn to smoke, drink and engage in sex activities from the films. | 4.21 | .622 |
| 4. | One should see films once in a while. | 2.40 | .766 |
| 5. | The impact of films on human mind is definitely for good. | 2.20 | .568 |
| 6. | Films increase one's sense of beauty. | 2.28 | .589 |
| 7. | I never enjoy films. | 1.80 | .633 |
| 8. | Films teach us not to show respect to our superiors. | 3.83 | .546 |
| 9. | People should see films.* | 2.91 | .700 |
| 10. | The movies are the most powerful agent to influence the good of Indian Society. | 2.00 | .646 |
| 11. | As a protest against the films we should be determined not to see them. | 4.61 | .548 |
| 12. | Films occupy time that could be spent in more creative activities. | 4.08 | .529 |
| 13. | Very few films are really good. | 3.75 | .645 |
| 14. | We have become civilized only through films. | 1.75 | .588 |
| 15. | Films are the most important causes of crime. | 4.06 | .521 |
| 16. | Films are alright but a few of them give the rest a bad name. | 2.31 | .593 |
| 17. | I think films are very interesting. | 2.12 | .470 |
| 18. | I think visiting films is a harmless hobby. | 2.21 | .527 |
| 19. | Films are the surest ways to kill time.* | 2.20 | .568 |
| 20. | The films are the best entertainment. | 2.04 | .424 |
| 21. | Sometimes I feel that the films are worth seeing, but at other times I doubt it. | 3.04 | .583 |
| 22. | Committing sin and going to films are same.* | 4.61 | .556 |
| 23. | Progress with the films is impossible. | 1.99 | .590 |
| 24. | Films are the most important form of art in the present day world.* | 1.96 | .678 |
| 25. | Films are the best entertainment because they are obtained cheaply. | 1.95 | .454 |
| 26. | Occasional visit to films is a good thing for all. | 2.21 | .523 |
| 27. | Films bore me. | 4.14 | .390 |
| 28. | Films weaken the moral power of people.* | 4.07 | .572 |
| 29. | Films are the most important influencing agent for creating evils in society. | 4.30 | .507 |
| 30. | I do not see films as I am sure of finding nothing useful there. | 2.75 | .652 |
| 31. | Films must be the first choice of all. | 1.54 | .781 |
| 32. | The pleasure that people get from films balance the harm they do. | 2.96 | .543 |
| 33. | I do not find much that is educational in the current films. | 3.55 | .625 |
| 34. | Films are less informative. | 3.64 | .827 |
| 35. | Visiting films is a bad habit. | 4.10 | .657 |
| 36. | I like films because I want to be entertained, not educated.* | 2.91 | .700 |

TABLE 1 (*continued*)

| No. | Statements | Scale values | Q |
|---|---|---|---|
| 37. | The films are responsible for prevalence of sex offences. | 3.95 | .699 |
| 38. | Films are the great educational institution for common people.* | 1.92 | .892 |

* Statements not used in the final Attitude Scale.

### 2. *Subjects*

*Ss* were 385 students—194 boys and 191 girls between 14 and 25 years of age reading in higher secondary schools and colleges in Orissa, India during the year 1960.

## E. Results and Discussions

The second purpose of this study was to ascertain the existing attitudes of higher secondary and college students in general and to see the difference in the attitude scores of students belonging to different sex groups, educational levels and age groups towards the motion picture. The results obtained together with the significance of difference are presented in Table 2 and Table 3.

It is clear from Table 2 that students possess a favorable attitude towards the motion pictures. But their attitude is not very favorable as their mean attitude score, 2.84 is near to 3.00, the point where attitude is said to be neutral on a five point scale. A similar result has been obtained by Williams (5). This indicates similarity in attitudes towards the motion picture among our present sample of Indian students and the sample of students coming from Western countries.

Attitudes of male and female students are found to be on the whole favorable toward the motion pictures. When the mean scores for both the groups were compared and the CR was obtained to test the significance of difference it was found that male students showed a significantly more favorable attitude than female students. (Table 2, $CR = 2.302$, $P > .05$). Williams (5) first reported such a sex difference in attitudes of students towards the movies.

Further analysis of the results revealed some interesting facts. When a comparative analysis of the attitude scores of male and female students was done separately at the higher secondary level and college level, they were also found to differ in the same direction, that males are more inclined than the females towards the motion picture. However, the difference

TABLE 2
ATTITUDE SCORES OF MALE AND FEMALE STUDENTS OF HIGHER SECONDARY & COLLEGE LEVELS

| Subjects | | N | Mean score | S.D. | CR | P |
|---|---|---|---|---|---|---|
| Students in general | | 385 | 2.840 | .501 | | |
| Sex | Male | 194 | 2.782 | .521 | 2.302 | .05 |
| | Female | 191 | 2.899 | .471 | | |
| Higher Secondary | Male | 113 | 2.842 | .433 | 1.569 | * |
| | Female | 130 | 2.931 | .439 | | |
| College | Male | 81 | 2.700 | .603 | 1.379 | * |
| | Female | 61 | 2.831 | .527 | | |
| Higher Secondary | | 243 | 2.889 | .444 | 2.375 | .02 |
| College | | 142 | 2.756 | .575 | | |

CR between Male students of Higher Secondary and College level = 1.807*
CR between Female students of Higher Secondary and College level = 1.282*

* CR not significant at .05 level of confidence.

TABLE 3
AGE DIFFERENCES IN ATTITUDES OF STUDENTS TOWARDS THE MOTION PICTURES

| Age | N | Mean score | S.D. | CR | P |
|---|---|---|---|---|---|
| Below 18 years | 202 | 2.970 | .50 | 5.69 | .001 |
| 18 years & above | 183 | 2.697 | .46 | | |

between them was not statistically significant. The amount of difference between them in regard to their attitudes is more at the college level than at the higher secondary level. A possible explanation for this may be that as the students mature more and more intellectually, their perception of the outer world, objects, etc. becomes more distinct, specific and individualized. Thus the little difference in the attitudes of male and female students at the higher secondary level seems to emphasize the fact that at the lower educational level students are probably not very much conscious of their own sex for which their attitude scores did not differ very much.

The students then were divided into two groups in regard to their educational level. The students reading in the top classes of high school and in the pre-university classes were grouped under the higher secondary group and students from the first year of the three year degree course and onwards were grouped under the college group. Their attitude scores were then compared and the significance of difference was also tested. From Table 2, it will be seen that these two groups of students differed significantly in their attitude towards the motion picture ($CR = 2.375$, $P > .02$). Both the groups showed favorable attitudes but the college students' attitudes are found to be significantly more favorable than that of the higher secondary students. This suggests that attitudes become more crystallized and differentiated with increase in educational level. Difference in educational level therefore brings out significant difference in the attitudes of students towards motion pictures.

Thus it is evident from the above discussion that the effect of educational level significantly differentiated the students of the sample in regard to their attitudes. But, it will be rather interesting to note here that when the attitude scores were compared it was found that male students of higher secondary classes differed from male students of college classes in their attitudes towards the motion pictures, and so also the female students of these two educational levels. Yet in neither case the difference was significant. (Table 2, Male, $CR = 1.807$ $P < .05$; Female, $CR = 1.282$, $P < .05$). However, from Table 2 it can be seen that the difference in

attitudes between the male students of higher secondary classes and college classes is more than that between female students of these two grades.

The above peculiarity may be due to some other variable like age, which co-exists with the educational level. On this assumption the effect of age on attitude was explored (Table 3). It was found out that attitudes were significantly different when the sample was divided into two age groups: Below 18 years vs. 18 years and above. The obtained 'CR' 5.69, is significant at .001 level.

## F. Summary and Conclusions

The purpose of this study was: (*a*) to construct a scale for measuring attitude towards the motion picture; and (*b*) to ascertain the existing attitudes of Indian students by using this scale. In this connection it was also planned to make a comparative analysis of the attitudes of students in regard to their sex, educational level, and chronological age. A Movie Attitude Scale of Thurstonian type was constructed and was applied to 385 students reading in schools and colleges of Orissa, India. The following conclusions are drawn from the results obtained in this investigation. Students in general showed a favorable attitude towards the motion picture. Although both male and female students showed favorable attitudes towards the motion pictures, the male students' attitude was significantly more favorable than that of the female students. Sex difference in attitude scores seemed to be more at the college level than at the higher secondary level (not statistically significant). The attitudes of higher secondary and college students are favorable towards the motion pictures. College students' attitude was significantly more favorable than that of the higher secondary students. Significant difference exists in the attitudes of students belonging to different age groups. In the higher age group (18 years and above), attitudes towards the motion pictures were found to be more favorable than that of the lower age group (below 18 years).

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# MEANING CLUSTERS OF COMMON ADJECTIVES IN THE FINNISH LANGUAGE*[1]

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## A. THE PROBLEM

This report analyzes the judged meaning relations between common Finnish adjectives in order to assess the similarity of Finnish to other languages studied by Osgood and his associates (10, 6, 18, 20) in regard to semantic structure. The above mentioned investigators have consistently found support for the hypothesis of isomorphy between meaning systems across languages and cultures in contrast with the cultural relativity theory of Whorf (21) which asserts the dominance of the language structure in man's cognitive processes. The notion of isomorphy is more in accord with the reverse order of events, *viz.*, that the similarity of human experience should reflect itself in similarity of linguistic meaning systems. Our method of data collection is similar to that employed by Osgood *et al.* in that it employs adjective scales in the form of the semantic differential technique originated by Osgood, but it differs from the latter in the method by which the adjective scales were selected in order to counteract the operation of certain factors which could bias results in favor of the hypothesis of isomorphy.

Osgood's original semantic differential (10) it will be recalled, consisted of 50 pairs of adjectives forming bipolar opposites such as good-bad, small-large, high-low, etc. These are employed as 7-point scales on which subjects may rate concepts, objects, etc. From the ratings of a set of concepts on his 50 scales by a group of subjects, Osgood calculated the intercorrelations between all pairs of scales and subjected the resulting matrix to factor anal-

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ysis. He found that only three factors accounted for most of the variance in the table of intercorrelations and named them, according to the characteristics of the highest loading scales, evaluation, potency, and activity. Alternatively he obtained data from another sample of subjects who were required by a forced-choice paired-comparison technique to judge the similarity between scales directly, analysis of the resulting intercorrelations yielding the same factors as above. These experiments led to the hypothesis of a semantic space of simple structure with few dimensions to which any concept in the English language could be ordered. The meaning of a concept may then be defined as its location in such a space.

The idea of applying this method to other languages for the purpose of comparing semantic structures across languages and cultures followed. Kumata (6) compared Japanese and Korean with the English language; Triandis and Osgood (20) similarly studied Greek; and Suci (18) studied the three Indian languages: Hopi, Navajo and Zuni. Evaluation, potency, and activity emerged in these studies as dominant factors, with minor differences in the manner with which some scales loaded most highly on one or another of the factors; and this was interpreted as contradicting Whorf's position of cultural relativity in favor of a natural logic view of isomorphy between the semantic structures of languages.

As a Fulbright lecturer in the University of Helsinki in 1958-59, the author had opportunity to apply the method to still another language which differs from all other European languages except Estonian and, perhaps, Hungarian. However, he became concerned with a problem of method involving the representativeness of the scales which had been used for the purpose in question. The considerations involved will now be briefly described.

The first point concerns the method of eliciting adjectives for inclusion in a set of semantic differential scales. The original semantic differential scales were elicited in a word association experiment in which nouns from the Kent-Rosanoff (4) word list were used as stimuli. Subjects were instructed to respond to the first adjective that comes to mind upon hearing each stimulus word. The adjectives occurring with the highest frequencies were used to form the scales of bipolar opposites. The use of the Kent-Rosanoff words may be open to question since this list was devised as a clinical tool for the purpose of eliciting latent pathological associations, or complexes. We sought a more neutral and, hopefully, more representative sample of nouns as stimuli.

The second, and more critical, point concerns the use of the derivation

of scales for cross-linguistic comparisons. In the cross-linguistic studies referred to above the foreign scales were developed from the English scales by direct translation. First a committee of bilinguals conversant with both languages translated Osgood's scales into the foreign equivalents. The members of the committee worked independently, and only words on which they agreed were retained, others being eliminated. A second bilingual committee then translated the foreign scales back into English, scales on which agreement was not achieved again being dropped. Thus the resulting scales used for cross-cultural comparisons contained only words which stood up under this exacting two-way procedure.

Is this procedure, perhaps, feeding into the analysis identical material for the two languages to be compared, even though in a different vernacular? If so, it would not be surprising if the same factors were to emerge from its use in comparing them. The very rigor of the cross-translational procedures would, indeed, tend to sharpen this effect. Meanings unique to a language do not seem to have the most favorable conditions for appearing from the use of scales whose synonymity with the comparison scales is assured by the method of their selection.

It seemed desirable to us, therefore, to use for our scales in the comparison language adjectives that are not obtained by translation from an English scale with which it is to be compared, but which are elicited independently. Under conditions of independent elicitation of semantic differential scales will the same dominant dimensions emerge in a factor analytic study as those found by Osgood in the earlier study? An affirmative answer to this question would strengthen the case for the hypothesis of isomorphic semantic structures across languages.

## B. Procedure

The method employed follows three steps, replicating with Finnish material and Finnish subjects the procedures of Osgood's original studies; (*a*) generation of a set of Finnish semantic differential scales by means of a word association experiment; (*b*) employment of the resulting scales in a word judgment experiment designed to reveal relations of meaning which exist between the scales; and (*c*) factor analysis of the resulting matrix of interrelations to extract the factors, or dimensions, of the semantic space within which they function. The results are then compared with Osgood's.

### 1. *The Finnish Language*

A brief characterization of the Finnish language may be first in order. Finnish is a member of the Finno-Ugric language family, its nearest present-

day relatives being Lappish, Estonian, Cheremissian, Mordvinian, and Magyar (Hungarian). Cheremissian and Mordvinian are spoken by small agrarian groups along the middle Volga region. Scattered groups in Russia between the Volga and the Ural Mountains and in western Siberia speak variants of Ugric or Finnic, and Livonian may still be spoken in parts of Latvia and Lithuania. Most of these languages are all but extinct, with the exception of the ones first mentioned. Finns and Estonians are able to understand each other, but the resemblance between Finnish and Magyar has practically been obliterated. Finnish, as spoken today in Finland, differs morphemically and syntactically from all other European languages except those mentioned above. It is an aglutinating language in which affixes may endow words with distinct meanings to a much greater extent than in the Germanic and Romance languages. It operates without gender and without prepositions, prepositional relationships being expressed in declensional forms and by position. Other interesting characteristics of Finnish have been investigated by Runneberg (13, 14), and one gains the impression that the understanding of the structure of grass-roots Finnish has been hindered by the work of grammarians who have imposed upon it the formal concepts of Latin and German grammar which are foreign to its mood.

### 2. *Generation of Semantic Differential Scales*

To obtain a pool of adjectives from which to select pairs to form semantic differential scales 80 Finnish nouns were presented to 200 students in the University of Helsinki with instructions to respond to each by writing the first adjective which it brings to mind as it is exposed. The 16,000 adjectives thus obtained were punched on IBM cards, sorted by means of IBM sorting equipment, and tabulated according to frequency of mention. Ten members of the writer's seminar in psycholinguistics in the University of Helsinki served as a committee to determine the opposites of all adjectives that were mentioned with a frequency of 10 or more. Disagreements were resolved by discussion until satisfactory consensus was achieved. If consensus could not be achieved, it was assumed that the word had no clearcut opposite, and eliminated. Few words were eliminated this way, and they were of low frequency so they would not have qualified for inclusion anyway on grounds of frequency. The frequencies of the words composing each pair were added together, the resulting combined frequencies of bipolar opposites were ranked in order of size, and the 60 pairs of highest rank were selected for experimental use. It was decided beforehand that no pair which did not have a combined frequency of at least 50 would be used, but it was not necessary to

apply this restriction since the pairs of lowest frequency in our selection just came above this point.

*a. Selection of stimuli for the word association experiment.* The selection of the 80 nouns which served as stimuli in the word association experiment requires special description since we wished not only to avoid the emphasis on emotionalized associations which we thought might inhere in nouns taken from the Kent-Rosanoff list, but to achieve some degree of representativeness in regard to symbolized concepts in a language (see *supra*). Considering the wealth of verbal concepts in any complex language, this may be an unrealistic goal. We give our method in the hope that some inventive person will come up with a defensible plan for sampling the concepts of a language.

We began with a thesaurus, several being available (11, 12, 15, 16). The famous work by Roget seemed most suitable. Its classificatory schema serves as a guide to insure breadth of coverage: six "primary classes of categories" are subdivided into "sections," and these, in turn, into subsections, and finally into specialized groupings of words with closely related meanings. Of the latter there are 1000 groupings in the total work.

We listed three nouns from each of the 1000 subgroupings, selecting them on the basis of assumed familiarity. Then we consulted a polyglot word list, Part IV of Bodmer (1) *The loom of language,* one part of which lists common teutonic words in parallel columns for English, German, Dutch, Swedish, and Danish; and another part of which does the same for common Romance words in English, French, Spanish, Portuguese, and Italian. Any word in our thesaurus list which could not be found in both these polyglot lists was eliminated. Of the words which remained we crossed out in a hit-and-miss fashion all but one word in each line of three. Perhaps the remaining thousand words should have been used as stimuli, but it seemed preferable to reduce the list to 80. A page count determined the approximate proportion of the thesaurus devoted to each of the six primary classes of categories. These proportions multiplied by 80 gave the number of words from each category to be included in our final list, and this number was selected randomly from our 1000 words as they were grouped into these categories. The categories included: (*a*) abstract relations among things, 18 per cent; (*b*) space, including motion, 14 per cent; (*c*) material world, 13 per cent; (*d*) intellect and its operations, 15 per cent; (*e*) volition, 22 per cent; (*f*) sentiment and moral powers, 18 per cent.

### 3. *Index of Relationships Between Scales*

To obtain indices of relationships between scales for factor-analysis the forced choice paired-comparison technique described by Osgood *et al.* (10)

was used. This was used by Osgood as an alternative for having subjects rate a set of concepts.

*a. The instrument.* This method requires the subject to judge one member of a scalar pair of adjectives in terms of its greater resemblance in meaning to one or the other of the second pair, as in the example:

LARGE — small
good — bad

in which the term LARGE is to be judged as more like good or more like bad. Mimeographed forms were constructed for the comparison of all scales with all other scales. Subjects were instructed to encircle the member of the lower pair which was most like the capitalized word of the first pair in meaning. The comparison scales were systematically rotated against the (standard) scales to be judged in such a way as to keep their recurrence at a maximum distance. To neutralize possible lack of symmetry of meaning between pairs, provision was made for judging each set of scales in both positions. Thus, in the above example, the following judgment was also obtained:

GOOD — bad
large — small

For 60 scales this required a total of $60 \times 50 = 3540$ judgments, too many to expect from even our cooperative Finnish subjects. The work was, accordingly, broken down so that a single subject made only about 600 judgments, the 59 pages being made up into six booklets of 10 pages, with the pages randomly assigned to the booklets.

*b. Subjects and administration.* Two hundred and eighty students in psychology, sociology, and English philology in the University of Helsinki participated in the task of judging the scales, and for each type of judgment from 40 to 50 responses were obtained. There were about an equal number of men and women with an age range of 19 to 35 years. Finnish was listed as the native tongue by 94 per cent of the subjects, the remainder listing Swedish. Since all Finns are required to study both languages none of the Swedish-speaking Finns expressed any difficulty with Finnish and the results of the latter were not excluded or kept separate. Prior to administration the booklets were piled in random order, and in the testing room they were distributed in the order in which they came off the stack. The experiment was conducted during a scheduled lecture period of the course and a member of the psycholinguistic seminar explained the task and answered any questions that arose before the work of judging began.

*c. Index of relationship.* The results were scored in terms of agreement with a chosen direction of judgment, which in all cases was the number of subjects encircling the left term of the comparison scale. The numbers encircling reciprocal pairs in the same way were added to get a total frequency of agreement (i.e., the number who marked LARGE as *good* and the number who marked GOOD as *large* in the illustration above were combined to form the total frequency for agreement on this relationship). The results were then converted into proportions. A 60 by 60 matrix of proportions expressing the degree of agreement of subjects judging scales in the same way was thus generated.

In this design a proportion of .50 represents no agreement, since responses are spilt equally between the two alternatives; an index greater than .50 represents agreement in considering the left term of the comparison scale most like the judged term, with 1.00 expressing perfect agreement; and an index of less than .50 represents agreement in the opposite direction of judging the right-hand term of the comparison scale most like the capitalized term of the scale judged, with .00 indicating perfect agreement.

To achieve an index for factor-analytic purposes which would vary between —1.00 and 1.00 the proportional entries were multiplied by 2 and 1.00 was subtracted from the product, i.e.,

$$\text{Index of Relation} = 2p - 1$$

With this treatment the indices resemble correlation coefficient, varying from —1.00 indicating perfect negative relation, through 0.00 indicating no relation, to 1.00 indicating perfect positive relation. It may be noted that this index is the phi-coefficient for a symmetrical $2 \times 2$ table. This, of course, assumes that identical results would have been obtained had the other term been judged in each case. Osgood *et al.* (10), using an identical method of data collection, factor-analyzed their matrix of proportions directly by the method of D-factorization, which is fully described in their book. However, since only one term of the standard scale was judged in their forced-choice experiment, the same assumptions were implicit in their work so that the two methods should yield similar results. The validity of these assumptions is under investigation in another experiment (2). For the present experiment the above described index will be considered an estimate of phi.

### 4. *Factor-Analysis*

*a. Reduction of matrix.* Available computer facilities at the time of this analysis could not handle a 60 by 60 matrix of intercorrelations, hence we

found it necessary to reduce our efforts to a matrix of forty variables, the largest that could be handled. Inspection of the complete matrix revealed numerous cells with unitary entries. This indicated that many of the scales would have high loadings on some factor which would prevent latent factors from appearing in the analysis by sweeping out too much of the variance. This provided a cue for a suitable method for eliminating variables from the original matrix. Applying elementary linkage analysis (8) to the matrix confirmed this hunch by linking all but four of the scales into a tightly organized cluster in which evaluation seemed to be the organizing principle. All columns and corresponding rows having more than one unitary entry were, therefore, crossed out. This reduced the number of variables to 42, and the two of these with the highest coefficients were finally eliminated to bring the number of variables to 40.

*b. Method of analysis.* The resulting order 40 matrix was subjected to a principal axes factor-analysis with unity in the diagonals. The factor loadings obtained were further subjected to rotation to simple structure. Since it was desired to maximize the loadings and maintain orthoganality Quartimax solutions were obtained (9). In deciding how many factors to rotate, we took our cue from a recent paper by Kiel and Wrigley (5). This procedure involves comparing solutions with increasing numbers of factors rotated until stability is reached where rotation of additional factors yields no additional acceptable factors, *i.e.,* factors in which at least two variables have their highest loadings, a point which the authors suggest as a criterion for completeness of factor extraction. This criterion was reached with the extraction of five factors.

### 5. *Frequency Indices of Adjectives*

As an afterthought it occurred to the writer that the frequency of occurrence in the English language of the English equivalents of our Finnish adjectives would add something to the picture of similarity of semantic structure between the two languages. Accordingly we entered the tables of Thorndike's (19) word book and calculated the rank and frequency per million of the English analogues of the 100 most frequent adjectives elicited in our word association experiment, all of which are included in the 60 scales we used.

## C. Results and Discussion

### 1. *Word Association Experiment*

*a. Number of association and distribution of frequencies.* Responses of 200 subjects to 80 nouns yielded a total of 16,000 responses. There were

1863 different responses, counting variants of other parts of speech that were not strictly adjectives. These occurred with frequencies ranging from 647 for the most common response to a large number of responses occurring only a single time. Only 67 of the total number of 1863 words accounted for 50 per cent of the 16,000 responses; or, put in other words, only 3½ per cent of the total number of different words which were given accounted for one half, or 8000, of the total number of 16,000 responses. This suggests the operation of something like Zipfs (22) law for the saliency of adjectives elicited in word associations as well as for the distribution of words in general spoken or printed material. Figure 1 shows this in the form of a plot of the number of different associations accounting for successive cumulative deciles of the total number of associations. A small number of qualifiers seem, therefore, to lie near the suface of the pool of descriptive verbal responses ready for elicitation. They constitute the most salient descriptive terms of the language.

*b. Frequency of English analogues of Finnish adjectives.* It is, therefore, pertinent to inquire in regard to the frequency with which the English equivalents of the most common Finnish adjectives occur in English verbal production. This is provided by the Thorndike-Lorge index. Table 1 presents

TABLE 1
OCCURRENCE OF ANALOGUES OF 100 MOST FREQUENT FINNISH ADJECTIVES IN THORNDIKE-LORGE COUNT RANKED IN ORDER OF FREQUENCY

| Thorndike-Lorge Rank | Frequency |
|---|---|
| First 1000 (100+ per million) | 48 |
| Second 1000 (50-99 per million) | 19 |
| Third 1000 (30-49 per million) | 10 |
| Fourth 1000 (19-29 per million) | 5 |
| Fifth 1000 (14-18 per million) | 6 |
| Seventh 1000 (8-9 per million) | 2 |
| Eighth 1000 (6 or 7 per million) | 1 |
| Tenth 1000 (4 per million) | 3 |
| 11-19th 1000 (1-3 per million) | 6 |
| Total | 100 |

the number of the 100 most frequent Finnish adjectives obtained in the word association experiment falling into successive thousands of English words ranked according to frequency in the Thorndike-Lorge count. Data on frequency per million words counted in the material sampled by Thorndike and Lorge are also given. It should be remembered that the Thorndike data represent the frequency with which all words, not just adjectives, occur in the English language. It should be noted that nearly

half (48) of the 100 most frequent Finnish adjectives fall within the first thousand English words ranked for frequency, and have a rate of occurrence of more than 100 per million. Another fifth (19) fall within the second thousand; and 77 of them fall within the first three thousand. All 100 words

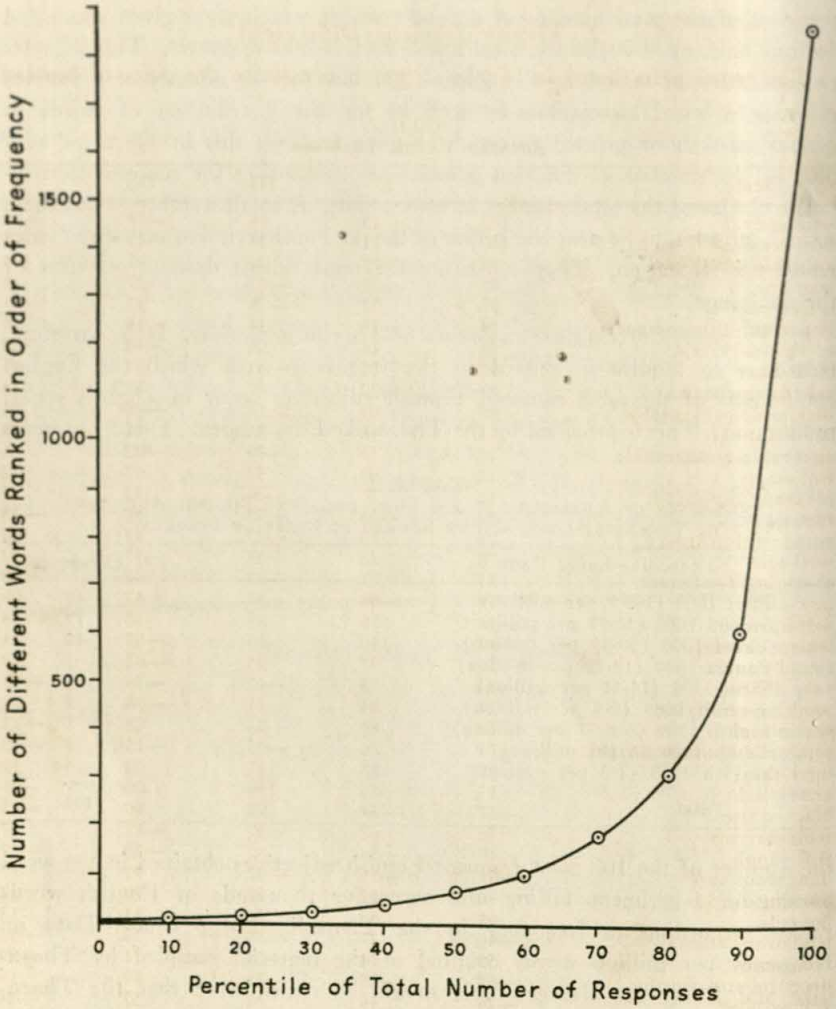


FIGURE 1
RELATION BETWEEN NUMBER OF DIFFERENT WORDS (N = 1863) AND PERCENTILE SEGMENTS OF TOTAL RESPONSES (N = 16,000) IN WORD ASSOCIATION EXPERIMENT ELICITING FINNISH ADJECTIVES

are included in the Thorndike-Lorge list. These findings in themselves seem to be consistent with the natural logic view of the dependence of language on experience, and that human experiences at the most direct and superficial levels, at least, are common across cultures. Finnish and English have a similar pool of readily elicited adjectives.

### 2. *Finnish Semantic Differential*

The word pairs listed in Tables 2 and 3 constitute the pairs of bipolar

TABLE 2
ROTATED FACTOR LOADINGS

| Scale | I | II | III | IV | V |
|---|---|---|---|---|---|
| strong-weak | 105 | —15 | 36 | —13 | —06 |
| firm-feeble | 102 | —21 | 38 | —23 | —41 |
| valuable-worthless | 99 | —08 | 22 | 01 | 24 |
| wise-stupid | 98 | —08 | —05 | —27 | 34 |
| active-passive | 98 | 01 | —28 | 31 | —18 |
| important-unimportant | 94 | —13 | 14 | —14 | 05 |
| certain-uncertain | 94 | 16 | 28 | —43 | —22 |
| clear-hazy | 92 | 03 | —41 | 01 | 45 |
| expensive-cheap | 87 | —22 | 07 | 31 | 34 |
| inevitable-preventable | 86 | 04 | 10 | —06 | 01 |
| beautiful-ugly | 84 | 43 | —46 | 18 | 29 |
| agreeable-disagreeable | 84 | 65 | —20 | —22 | 21 |
| full-empty | 82 | 08 | 51 | 07 | 22 |
| pleasant-unpleasant | 81 | 77 | —20 | 13 | 05 |
| fast-slow | 80 | —04 | —72 | 50 | —18 |
| wonderful-ordinary | 77 | 10 | —27 | 47 | 35 |
| well-sore | 75 | 52 | —39 | —57 | 02 |
| charming-repugnant | 73 | 71 | —33 | 00 | 22 |
| new-old | 59 | —09 | —58 | 47 | 00 |
| soft-hard | —18 | 118 | 09 | 30 | 34 |
| lenient-severe | —13 | 110 | —13 | —03 | 34 |
| round-angular | 36 | 97 | 25 | —03 | 14 |
| easy-difficult | —34 | 92 | —42 | —34 | —48 |
| soothing-terrifying | 27 | 84 | 11 | —78 | 01 |
| warm-cool | 49 | 80 | 33 | 28 | —23 |
| comfortable-uncomfortable | 74 | 76 | —05 | —15 | —03 |
| thick-thin | 13 | 33 | 117 | 02 | 18 |
| heavy-light | 15 | —66 | 106 | 00 | —08 |
| black-white | —17 | —54 | 82 | 40 | —03 |
| wide-narrow | 46 | 62 | 67 | —12 | 07 |
| stiff-supple | 49 | —56 | 62 | —30 | —29 |
| dangerous-safe | —32 | —56 | —02 | 90 | 17 |
| burning-frigid | 44 | 22 | 17 | 90 | 07 |
| hot-cold | 44 | 50 | 21 | 81 | 13 |
| temporary-eternal | —46 | 27 | —34 | 73 | —36 |
| red-green | 59 | 14 | —01 | 71 | —29 |
| deceitful-trustworthy | —69 | —25 | —31 | 69 | 13 |
| yellow-blue | —14 | 40 | 03 | 57 | —36 |
| long-short | 57 | —42 | —16 | —08 | 78 |
| deep-shallow | 61 | —58 | 27 | 18 | 64 |

TABLE 3
SCALES NOT USED IN ANALYSIS

| | |
|---|---|
| good-evil | useful-useless |
| good-bad | high-low |
| necessary-unnecessary | bitter-sweet |
| happy-unhappy | embittered-contented |
| nice-awful | large-small |
| gay-sad | huge-trifling |
| right-wrong | sturdy-weak |
| cruel-tender | sharp-dull |
| bright-dark | disturbing-quieting |
| faithful-faithless | humble-proud |

opposites of our Finnish semantic differential as determined by the methods above described. Eighty-two of the 120 adjectives in these tables come from the 100 most frequent responses in the word association experiment described in the preceding paragraphs. In 23 of the word pairs both terms came from this high frequency list. Thirty-five others had frequencies from one to 34, and only three words were supplied by our Finnish co-workers from outside the pool of responses. Considering again the fact that only 67 words, all included in these scales, accounted for 50 per cent of the responses in the word association test it is apparent that these scales well represent the most readily elicited oppositions in the response repertoire of Finnish university students and, perhaps, of native Finnish speakers.

*a. Comparison with Osgood's original version.* We have already seen that the adjective from which the above scales came are among the most frequent English words. To what extent, we may further inquire, does this list overlap with Osgood's original (10) version of the semantic differential? Forty-five of our 100 most frequent adjectives and 14 of somewhat lower frequency duplicate the latter's list. This is an overlap of 59 per cent between two independently elicited lists in widely different languages. Considering the large number of adjectives in both languages, so much overlap could hardly have been a chance happening. A source such as the Thorndike-Lorge count is, perhaps, superior to word association elicitation for determining the most common words in a language. One wonders what degree of overlap, based on rank frequency, might exist between a Finnish word count patterned after Thorndike and Lorge and English, or any other language?

### 3. *Semantic Structure*

Rotated factor loadings for the 40 variables subjected to analysis are given in Table 2. Table 3 lists the 20 scales which were eliminated from the analysis, as previously described. Table 2 is arranged in the order

of size of factor loading within the factors in which the scales have their highest loadings, and the scales have been reflected, where necessary, to make the relationships within the factors of highest loading variables all positive. This should make for ease of interpretation.

*a. Factor I: Evaluation with Finnish overtones.* The first factor has 19 scales loading highest on it. It is readily categorized as evaluative in view of such contrasts as valuable-worthless, wise-stupid, important-unimportant, beautiful-ugly, and pleasant-unpleasant. Four of Osgood's evaluative scales are duplicated here. However, highest loadings are achieved by strong-weak and firm-feeble. These are certainly potency terms, and fall into the potency factor for Osgood. Active-passive (which, it should be noted, did not come from the association experiment but was introduced into our semantic differential for other purposes), also loads high on evaluation. Note also the inclusion here of certain-uncertain and inevitable-preventable.

Do these results make psychological sense? It is the writer's opinion that they do, but the evidence does not come from factor-analysis. Firmness, strength, sureness, persistence, etc., are highly valued personality characteristics in Finland, as is action versus inaction in the sense of indolence. These concepts, associated with worth or value (evaluation), are ingredients of the much acclaimed *sisu* (3), a word which has no exact equivalent in English, but which represents stubborn, courageous, loyal persistence in the pursuit of a goal in disregard of overpowering obstacles, pain, or personal safety. This trait is well portrayed in Finnish history as emphasized by Goodrich (3), in the famous classic *Seven Brothers* by Alexis Kivi (17), and by the celebrated heroism of Lemminkainen and the heros of the Kalevala, the Finnish epic which inspires much of Finland's music, poetry, and art. One may conclude that evaluation has peculiar overtones in the Finnish language so that power of a certain type is not foreign to this dimension. May we speak of *sisu* overtones?

*b. Factor II: Resistance-yielding.* Marker terms in the second factor include soft-hard, lenient-severe, easy-difficult, round-angular. These terms seem to suggest the opposition between yielding and resistance. Comfort is also found here, as in comfortable-uncomfortable, soothing-terrifying. Indeed yielding experiences are associated with comfort, resistance is associated with discomfort and terror. How name this factor? It seems not inconsistent with potency as defined by Osgood's analysis.

*c. Factor III: Weight.* Here we have another potency factor suggestive of weight, mass, size: thick-thin, heavy-light, wide-narrow, black-white. Black is a heavy color compared with white. Here we find also stiff-supple, stiffness being a heavy resistance.

*d. Factor IV: Safety.* Here are included the safe color, green and the danger color, red; the moral danger of deceit versus the safety of trustworthiness; and the thermal qualities of hot and burning as more threatening than cold and frigid. These thermal implications are admittedly stretched: they seem to be inconsistent with the *sauna* complex from which one might expect heat to be associated with safety rather than with threat. Yet fire, in experience, is no doubt more dangerous than cold.

*e. Factor V: Unnamed.* The final factor unites two spatial concepts: long-short and deep-shallow. Such a dimension should, on logical grounds, be a dimension of semantic space.

Extraction of factors beyond the fifth results in break-up of the above clusters, with empty-full and blue-yellow being first to do so. These are, indeed, tenuously related to any of the five clusters described above.

*f. Scales which were not included in the analysis.* A glance at the twenty scales excluded from the factor analysis for reasons already described is in order. These are found in Table 3. At least 13 of the scales may be considered evaluative, seven of them duplicating scales in Osgood's evaluation dimension. Three involve size, suggesting potency; and four are suggestive of activity. The important point to note from the fact that they were excluded on grounds of perfect inter-scale agreements is their high correlation with each other and with other scales in the original matrix. Had they been included in the factor analysis it is highly likely that evaluation, potency, and activity would have accounted for all of the variance.

## D. Concluding Remarks

In conclusion, it seems safe to say that the same descriptive categories are high in the response repertoire of English and Finnish language users as measured by the ease with which words may be elicited in word association experiments and the overlap between the two languages from the results of such experiments. It is also clear that evaluation and potency dominate the semantic structure of both languages. Each language, however, seems to have its own overtones, as examplified by strength falling into the evaluative cluster in Finnish. If these characteristics, probably culture-determined, could be brought more sharply to light, a way of assessing intercultural differences that probe deeper than the first level of language elicitation may be achieved.

The naming of factors which emerge from a factor analysis is itself a ticklish problem. We have not seen fit to include all five clusters under the Osgoodian rubrics of evaluation, potency, and activity. This involves matters

of personal preference rather than clearcut indications from the clustering of variables as a result of factor analysis. Partly it's a matter of the availability of a conceptual category which combines certain opposites. Thus, good-bad, pleasant-unpleasant, etc., are rather neatly categorized as "evaluative"; and strong-weak, mighty-feeble, etc., are recognized as lying on a potency continuum. These are almost matters of synonymity. But how, with a single concept, does one categorize soothing-terrifying? Comfort would emphasize the first pole, whereas threat would emphasize the second pole of this opposition.

It is hard to see how evaluation, power, and activity could fail being dominant dimensions of any semantic space. Things are either good or bad, *i.e.*, desirable or undesirable, to be approached or to be avoided, by the very nature of psychological response, which always has direction. Nor can people avoid noting the degree to which the environment yields or fails to yield to their efforts, therefore to evolve categories of potency regarding the self or factors outside the self. Also motion, activity, is an unavoidable characteristic of the world as perceived. These categories, it may be expected, are part of the armamatorium of all languages, whether in the form of adjectives or other devices for qualifying experiences. The thing which makes the factor-analytic attack on the problem of meaning attractive, however, is the discovery of difference in the content and breadth of these factors in different languages.

A limitation of the present type of approach should also be mentioned. No conceivable study of this type can include even a sizable portion of the wealth of verbal designations in a language. Not only are there practical limits to the amount of judgmental data that one can collect, but even if data for a matrix of intercorrelations of order 1000 could be obtained, the wonderful electronic computers that we have still have too small a memory capacity to deal with it. But an analysis based upon the 1000 most frequently used adjective might exhaust the categories into which experiences could be described by the number of independent dimensions it might yield. Or might not!

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# ELEVEN ETHNIC GROUPS ON A SOCIAL DISTANCE SCALE*

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## A. INTRODUCTION

Since the construction of the Social Distance Scale by Bogardus (1) in 1925, numerous studies of social distance and factors affecting it have appeared. Sherif & Sherif (6) have summarized the results of a number of studies on social distance and allied problems. A few significant studies are those of Dodd (2), Prothro and Melikian (4), Prothro and Miles (5), Gray and Thompson (3) and Spoerl (7). But in view of the fact that prejudice, which lies at the root of different kinds of tensions prevailing all over the world, is at least in part revealed in the social distance at which members of one ethnic group hold another and its members, it is necessary that more studies of social distance be done in different cultures. The results of such studies would undoubtedly enable the social scientist to devise ways and means of increasing the sense of mutual understanding, goodwill and cooperation among nations.

## B. PURPOSE

The purpose of this study was: (*a*) to investigate the reactions of university students toward Indians and 10 other ethnic groups in respect of six categories of relationship on a modified form of the Bogardus Social Distance Scale; and (*b*) to see the difference, if any, between the reactions of male and female students toward those groups.

## C. METHOD

### 1. *Subjects*

The subjects were 500 students of Patna University selected at random from both postgraduate and undergraduate classes, of which 400 were males and 100 females.

### 2. *Materials*

A modified form of the Bogardus Social Distance Scale was used. This scale listed the following six categories of relationship: "would marry," "would

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be friends with," "would accept as a neighbour," "would allow to settle in the country," "would allow only as a visitor in the country" and "would not allow even to enter the country," to which members of each of the following 11 ethnic groups might be admitted: Americans, Burmese, Chinese, English, French, Germans, Indians, Japanese, Negroes, Pakistanese and Russians.

### 3. *Procedures*

Each subject was given the modified form of the Bogardus Social Distance Scale and asked to check only once for each ethnic group in the most acceptable column.

The following instructions were given to each subject:

> Below are listed 11 ethnic groups in alphabetical order with six categories of relationship written against each. Please check only once for each ethnic group the category to which you would most willingly admit members of that group. Remember that you are to consider each group as a whole and not in terms of its best or worst members.

## D. Results and Discussion

Table 1 presents the reactions of 500 Indian students to the 11 ethnic groups in a descending order of favourable marriage reactions.

TABLE 1
Reactions of 500 Indian Students to 11 Ethnic Groups in Percentage

| Ethnic groups | Categories of relationship | | | | | |
|---|---|---|---|---|---|---|
| | Would marry | Would be friends with | Would accept as a neighbour | Would allow to settle in the country | Would allow only as a visitor in the country | Would not allow even to enter the country |
| Indians | 73.8 | 24.0 | 1.0 | 1.2 | 0.0 | 0.0 |
| French | 21.0 | 56.0 | 5.4 | 2.4 | 12.4 | 2.8 |
| Americans | 20.8 | 64.6 | 2.4 | 1.0 | 8.4 | 2.8 |
| English | 20.4 | 57.2 | 5.6 | 2.6 | 11.6 | 2.6 |
| Germans | 15.2 | 55.6 | 5.6 | 4.6 | 16.6 | 2.4 |
| Russians | 14.0 | 61.2 | 10.4 | 0.6 | 10.4 | 3.4 |
| Burmese | 12.4 | 62.2 | 11.4 | 3.2 | 9.8 | 1.0 |
| Pakistanese | 9.8 | 36.6 | 13.6 | 2.2 | 16.2 | 21.6 |
| Japanese | 7.0 | 56.2 | 11.4 | 4.8 | 20.2 | 0.4 |
| Negroes | 4.4 | 47.2 | 6.4 | 6.2 | 22.0 | 13.8 |
| Chinese | 3.0 | 36.4 | 4.2 | 0.6 | 12.6 | 43.2 |

From Table 1, it will be clear that according to favourable marriage reactions, the Indians have got the first place. Of the 500 subjects, 73.8 per

cent expressed willingness to marry a representative or average Indian. The French, the Americans and the English occupied second, third and fourth positions respectively. The percentages for these groups are 21.0, 20.8 and 20.4 respectively. The differences between these percentages are almost negligible. This obviously indicates that these three ethnic groups are preferred for marital i.e., closest relationship to about the same extent. The percentage for the Chinese is the lowest. Only 3.0 per cent expressed willingness to marry the Chinese. The percentage for the Negroes is 4.4, which is very close to the percentage for the Chinese. In general, it is apparent that in comparison to the percentage for the Indians, the percentage for each of the remaining 10 ethnic groups is rather low. The lowest percentage for the Chinese may be at least in part due to the present strained relationship between India and China.

It will be further evident from Table 1 that in terms of percentage for extreme negative reactions as indicated in column six, the Indian students have shown the attitude of maximum antipathy toward the Chinese. The percentage of those who would not allow the Chinese even to enter India is 43.2. The amount of antipathy toward the Pakistanese is next to the Chinese. The Negroes come third in order of the high degree of antipathy. The percentages for the Japanese, the Burmese, the Germans, the English, the Americans, the French and the Russians for this category of relationship range from 0.4 to 3.4. No subject, however, showed attitude of antipathy toward the Indians.

The reactions of 400 male and 100 female Indian students to 11 ethnic groups in percentage are presented separately in Table 2.

Table 2 shows that according to favourable marriage reactions, the Indians are given the first place by both males and females. The percentage for the females, however, is much greater that the percentage for the males. This obviously indicates that females more than the males are in favour of marrying within their own ethnic group. Both males and females have recorded the Chinese as the lowest so far as willingness to marry members of this group is concerned. The second place is given to the Germans by the females and to the French by the males. The Americans and the English are given third and fourth places respectively by both males and females.

On a comparison of the percentage for males and females in column six, i.e., in the category of "would not allow even to enter the country," it will be clear that both males and females have shown maximum antipathy toward the Chinese. The percentage for the females is, however, much lower than the percentage for the males. After the Chinese, both males and females have

TABLE 2
REACTIONS OF 400 MALES AND 100 FEMALES TO 11 ETHNIC GROUPS IN PERCENTAGE

| Ethnic groups | Sex | Categories of relationship: Would marry | Would be friends with | Would accept as a neighbour | Would allow to settle in the country | Would allow only as a visitor in the country | Would not allow even to enter the country |
|---|---|---|---|---|---|---|---|
| Americans | Males | 22.50 | 60.75 | 2.50 | 1.25 | 10.00 | 3.00 |
| | Females | 14.00 | 80.00 | 2.00 | 0.00 | 2.00 | 2.00 |
| Burmese | Males | 14.00* | 58.50 | 12.50 | 3.75 | 10.50 | 0.75 |
| | Females | 6.00 | 77.00 | 7.00 | 1.00 | 7.00 | 2.00 |
| Chinese | Males | 2.75 | 30.75 | 3.75 | 0.25 | 13.25 | 49.25 |
| | Females | 4.00 | 59.00 | 6.00 | 2.00 | 10.00 | 19.00 |
| English | Males | 22.25 | 52.50 | 6.50 | 3.25 | 12.50 | 3.00 |
| | Females | 13.00 | 76.00 | 2.00 | 0.00 | 8.00 | 1.00 |
| French | Males | 24.00 | 51.50 | 5.25 | 3.00 | 13.50 | 2.75 |
| | Females | 9.00 | 74.00 | 6.00 | 0.00 | 8.00 | 3.00 |
| Germans | Males | 15.00 | 52.50 | 5.75 | 5.25 | 19.25 | 2.25 |
| | Females | 16.00 | 68.00 | 5.00 | 2.00 | 6.00 | 3.00 |
| Indians | Males | 69.75 | 28.00 | 1.00 | 1.25 | 0.00 | 0.00 |
| | Females | 90.00 | 8.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Japanese | Males | 7.50 | 50.00 | 13.50 | 5.75 | 23.00 | 0.25 |
| | Females | 5.00 | 81.00 | 3.00 | 1.00 | 9.00 | 1.00 |
| Negroes | Males | 3.75 | 43.50 | 6.25 | 7.00 | 24.00 | 15.50 |
| | Females | 7.00 | 62.00 | 7.00 | 7.00 | 14.00 | 7.00 |
| Pakistanese | Males | 9.50 | 32.25 | 15.00 | 2.50 | 16.25 | 24.50 |
| | Females | 11.00 | 54.00 | 8.00 | 1.00 | 16.00 | 10.00 |
| Russians | Males | 15.00 | 57.00 | 11.25 | 0.75 | 12.00 | 4.00 |
| | Females | 10.00 | 78.00 | 7.00 | 0.00 | 4.00 | 1.00 |

shown relatively greater antipathy toward the Pakistanese. The Negroes come next to the Pakistanese in both. The percentages for males and females showing attitude of antipathy toward other ethnic groups are indeed very small.

The reactions of all male and female subjects to the six categories of relationship were finally scored by counting one point for a check mark

in the first column i.e., in the category of "would marry," two points for a check mark in the second column and so on, counting six points for a check mark in the sixth, i.e., the last column. Table 3 presents the means of the two sexes for each ethnic group.

TABLE 3
AVERAGE SOCIAL DISTANCE FOR EACH ETHNIC GROUP AS EXPRESSED BY MALES AND FEMALES

| Ethnic groups | Average social distance scores | |
|---|---|---|
| | Males | Females |
| Indians | 1.33 | 1.13 |
| Americans | 2.24 | 2.02 |
| French | 2.38 | 2.33 |
| English | 2.40 | 2.17 |
| Burmese | 2.41 | 2.32 |
| Russians | 2.49 | 2.13 |
| Germans | 2.68 | 2.23 |
| Japanese | 2.87 | 2.31 |
| Negroes | 3.50 | 2.68 |
| Pakistanese | 3.62 | 2.87 |
| Chinese | 4.38 | 3.12 |

From Table 3, it will be clear that the average social distance scores of the females are lower than those of the males. This shows that females in general exhibit lesser amount of prejudice toward the different ethnic groups than the males.

When the data of Table 3 for the two sexes were ranked and the rank difference coefficient of correlation computed, the rho coefficient obtained was .79, which is significant beyond .01 level of confidence. It is thus clear that there is no significant difference in the ranking of eleven ethnic groups by both male and female students on the basis of their reactions to all the six categories of relationship on the social distance scale. In other words, male students showed favourable and unfavourable attitudes to the different ethnic groups in about the same preferential order as the females did.

## E. SUMMARY

This study was undertaken to find out the reactions of 400 male and 100 female students toward Indians and ten other ethnic groups, namely, Americans, Burmese, Chinese, English, French, Germans, Japanese, Negroes, Pakistanese and Russians, in respect of six categories of relationship on a modified form of the Bogardus Social Distance Scale. The findings were as follows: (*a*) According to favourable marriage reactions, the Indians secured the highest position, and the Chinese, the lowest. The French, the

Americans, and the English occupied second, third and fourth positions respectively. The differences between the percentages for these groups were, however, almost negligible. Females more than the males were in favour of marrying within their own group. The second place was given to the Germans by the females and to the French by the males. (*b*) According to extreme negative reactions, it was found that no subject showed attitude of antipathy toward the Indians. The attitude of maximum antipathy was displayed toward the Chinese by both males and females. The percentage of the females showing attitude of antipathy toward the Chinese was however, smaller than the percentage of the males. Both males and females showed considerably smaller amount of antipathy toward Americans, Burmese, English, French, Germans, Japanese or Russians. (*c*) The average social distance score of the female subjects was lower than that of the male subjects for all the eleven ethnic groups. Male students, however, showed favourable and unfavourable attitude to the different ethnic groups in about the same preferential order as the females did. The rank difference coefficient of correlation was significant beyond .01 level of confidence.

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# RACE ATTITUDES IN DURBAN, SOUTH AFRICA*

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## A. INTRODUCTION

The quantitative study of racial attitudes in South Africa is still relatively undeveloped. Mac Crone's and Pettigrew's studies of university students and Malherbe's study of Armed Forces personnel constitute to the best of our knowledge, the list of major publications in the field. (5, 6, 7, 9)[1] The present study overlaps in scope with both Mac Crone's and Pettigrew's work and attempts to verify some of their findings.

## B. THE QUESTIONNAIRE

The questionnaire consisting partly of open, partly of closed items, comprises personal data, stereotype, social distance and actual contact questions. It also contains three short essay questions asking the subjects to give their "solution for the South African race problem," to predict events for the next 20 years, and to assess race relations over the past 20 years. For the stereotype, social distance and actual contact questions, the subjects are asked to react to seven groups found in the South African population: Coloureds, Indians, Jews, English-speaking Whites, Afrikaans-speaking Whites, city Africans, and tribal Africans. The questionnaire was administered in April-May 1960, i.e., after the shootings of Sharpeville and Langa, during the State of Emergency, but after the peak of the unrest. These turbulent events have probably affected answers to some extent, but racial unrest provoked by discriminatory legislation and police brutality has become so commonplace in South Africa that rioting and shootings rather than peace can be considered the "normal" state of affairs. The questionnaire was anonymous and subjects were verbally reassured that nothing they might say could in any way be used against them. We have no reason to suspect uncandidness in the answers.

* Received in the Editorial Office on April 5, 1961, and given special consideration in accordance with our policy for cross-cultural research.

[1] In addition there have been some unpublished studies in Rhodesia and South Africa (3, 4, 10).

## C. The Sample

A sample of 383 Durban students was drawn from several faculties of the University of Natal, from two technical colleges and from a hospital nursing school.[2] The sample was not random. In all cases, entire classes were administered the questionnaire in a "captive" fashion. Nine persons refused to cooperate with the study, giving a return rate of 97.65 per cent. Of the 374 students who returned their questionnaire, 33.4 per cent are Europeans, 37.2 per cent are Indians, 26.5 per cent are Africans and 3.0 per cent are Coloureds. These proportions closely correspond to the proportion of these four "racial" groups in the Durban population.[3] Africans are slightly underrepresented in the sample, and Europeans are slightly overrepresented. One hundred and sixty one of the subjects are women and 213 are men. Men range in age from 16 to 43 with a mean of 19.66 years, and women range from 15 to 37 with a mean of 21.59. The overall mean age is 20.75 years.

With the exception of a few African nurses, all of our subjects completed High School and all have received some post-secondary education. As may be expected in South Africa, the fathers of our European respondents have more education and higher occupations that the fathers of our African and Indian subjects.[4] Sixty-seven per cent of the European fathers have non-manual occupations and 57 per cent completed High School. The respective figures are 55 per cent and 22 per cent for Indians, and 57 per cent and 42 per cent for Africans. Unlike what the above percentages suggest, we can expect that the middle class bias of our sample is strongest for the Africans and smallest for the Europeans. The latter, as a politically and economically privileged group probably show the least class selection in the acquisition of post-secondary education. Due to high European wages, the vast majority of South African Whites are financially able to send their

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[2] We are thankful for the help of H. R. Christopherson, H. Dickie-Clark, L. Kuper, J. Mann, H. Natrass, and A. R. Williams in planning and administering this study. The opinions expressed are entirely the author's.

[3] The respective proportions in the 1960 Durban population census are 29.6 per cent, 35.3 per cent, 31.1 per cent and 4 per cent. In South Africa as a whole the dominant Europeans (or Whites) constitute 19.4 per cent of the population, the Coloureds (or people of mixed descent) 9.4 per cent, the Indians 3.0 per cent, and the Africans 68.2 per cent.

[4] The small number of Coloureds (11) in the sample prevented us from including them in most of our findings. In the European group there are only 13 Jews and six Afrikaners, so that in most cases the white group is not subdivided by language or religion in the analysis. In that respect our study is more limited than Pettigrew's and Mac Crone's but insofar as our sample includes non-Europeans, it is more extensive than the other two studies.

children to college regardless of their own education or occupation. Africans in our sample presumably show the most class selection as they belong to the most underprivileged group, and Indians fall somewhere in between the other two groups, though probably closer to the Africans than to the Europeans.

Like Mac Crone's and Pettigrew's respondents, the present subjects are mostly young middle-class adults, and are not representative of the total population. The middle-class bias is probably greatest for non-Europeans among whom class selection in education is strongest. Our sample can only be said to be representative of the educated urban middle class of Durban.

## D. The Findings

### 1. *Perception of Groups*

The question "What different groups of people would you say there are in South Africa?" was asked to determine the relative salience of "racial" as opposed to other criteria of group membership. As expected, racial criteria were used by far the most frequently. Of 346 people who answered the question, 93.1 per cent mentioned racial groups. This salience of racial criteria is not surprising considering that skin colour is by far the most important determinant of status and rights in South Africa. Four subjects, two Europeans and two Indians, refused to categorize people into groups at all, 17 (all non-Europeans) mentioned only non-racial groups, and 160 gave both racial and other groups such as linguistic and religious groups. Only 49 persons (29 of whom were White) distinguished between English and Afrikaans-speaking Whites. Although Whites made the distinction to a greater extent than non-Whites, only 23.2 per cent of the Europeans did so in spite of the political importance of this linguistic split. By far the most common single answer was in terms of the four official racial groups recognized in the South African census and in Apartheid legislation: Africans (or Bantu or Natives), Indians (or Asians or Asiatics), Coloureds, and Europeans (or Whites). The use of terms was itself significant. Half of the Europeans still used the words "Bantu" or "Native" in reference to Africans although the two terms have in recent years become anathema to educated Africans (largely because these terms are officially used by the government). Of the Indians 15 per cent used the words "Bantu" and "Native" compared to none of the Africans.[5]

[5] The fact that most Europeans and many Indians do not know that the terms "Bantu" and "Native" are offensive to Africans and that they continue to use the words in complete innocence is a symptom of the communication barrier between racial groups in South Africa.

### 2. *Stereotypes*

To elicit group stereotypes, the subjects were asked to give the positive and negative traits that came to their minds when they were thinking of people of the seven different groups mentioned earlier. No list of traits was given to the subjects whose responses were left entirely open.

By simple addition of all stereotypes, positive and negative given by a person, a score was arrived at. As predicted, the number of stereotypes given is directly proportional to position in the South African racial hierarchy. Europeans give a mean of 17.27 stereotypes, Indians, 16.19, and Africans, 13.62. There is no significant difference between the mean number of stereotypes given by men (15.82) and by women (15.91). However, when race is held constant, European women are found to give more stereotypes than European men. The reverse is true for non-Whites and the two sex differences cancel each other in the total. We hypothesized that low-stereotype persons would tend to accept outgroups on the social distance scale and to have high actual contact with members of the out-groups. In fact, no significant relationship exists between number of stereotypes given and either social distance or actual contact.

In most cases, the average number of positive stereotypes about a given group exceeds the number of negative stereotypes. In the case of European stereotypes towards city Africans, and of Indian and African stereotypes towards Afrikaners and Coloureds, however, the number of negative stereotypes is greater than that of positive ones.

Table 1 shows the stereotypes that the various groups hold of one another. Several interesting conclusions emerge from the list of traits. As in many other studies of stereotypes, antithetical traits are attributed to the same group by the same people, e.g., Europeans consider city Africans lazy and hard-working, progressive and uncivilized, Indians consider the English tolerant and intolerant, etc. . . . The data simply confirm the alogical character of stereotypes. The similarity between stereotypes of Indians and of Jews is also striking. While Europeans express a much stronger anti-Indian prejudice than anti-Semitic one, the basic ingredients are common to both. Indians tend to project onto Jews the traits that Europeans attribute to Indians. It is a commonly heard phrase in South Africa that the Indians are "the Jews of Africa." It would seem that merchant communities of middle-men whether the Chinese in Malaya, the Indians of Africa or the Jews in Eastern Europe are the object of much the same form of prejudice. On the part of non-Europeans, Afrikaners are the object of the strongest prejudice as they are identified with the apartheid policies of the Nationalist

TABLE 1

STEREOTYPES HELD BY TEN OR MORE SUBJECTS OF A GIVEN GROUP TOWARDS A GIVEN GROUP

(Numbers—frequencies)

| Group holding the Stereotype | Group towards which Stereotype is held | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coloureds | | Indians | | Jews | | English | | Afrikaners | | City Africans | | Tribal Africans | |
| Europeans | Musical | 28 | Dishonest | 53 | Good in business | 34 | Snobbish | 31 | Intolerant | 38 | Insolent | 36 | Happy | 26 |
| | Gay, happy | 24 | Dirty | 36 | United | 25 | Tolerant | 17 | Hospitable | 35 | Violent | 26 | Backward | 26 |
| | Alcoholic | 19 | Intelligent | 31 | Generous | 24 | Apathetic | 15 | Provincial | 31 | Hardworking | 24 | Simple | 23 |
| | Hardworking | 17 | Good in business | 26 | Money conscious | 16 | Cultured | 10 | Fanatical | 21 | Progressive | 18 | Cruel | 15 |
| | | | Hardworking | 21 | Religious | 11 | Jingoistic | 10 | Friendly | 18 | Uncivilized | 15 | Dirty | 14 |
| | | | Over-reproducing | 14 | Intelligent | 11 | Intolerant | 10 | Patriotic | 14 | Lazy | 14 | Respectful | 14 |
| | | | Educated | 11 | Hardworking | 11 | | | | | | | Peaceful | 11 |
| | | | Religious | 10 | | | | | Religious | 14 | Dishonest | 14 | Hardworking | 12 |
| | | | Helpful | 10 | | | | | Uncultured | 12 | Immoral | 11 | Honest | 12 |
| | | | | | | | | | Conservative | 10 | Easily led | 10 | Unspoiled | 11 |
| Total number of European responses | | 294 | | 340 | | 284 | | 295 | | 323 | | 318 | | 323 |
| Indians | Colour conscious | 27 | Hardworking | 34 | Good in business | 32 | Kind | 35 | Oppressive | 49 | Hardworking | 35 | Backward | 64 |
| | Alcoholic | 19 | Good in business | 31 | Stingy | 31 | Hypocritical | 24 | Intolerant | 46 | Violent | 24 | Hardworking | 25 |
| | Quarrelsome | 18 | Religious | 18 | Money consc. | 19 | Tolerant | 24 | Haughty | 24 | Educated | 23 | Subservient | 13 |
| | Gay, happy | 15 | Selfish | 17 | Selfish | 17 | Snobbish | 21 | Frank | 23 | Uncultured | 20 | Traditional | 12 |
| | Sociable | 15 | Conservative | 16 | Dishonest | 15 | Intolerant | 21 | Uncultured | 21 | Impolite | 17 | Peaceful | 11 |
| | Good craftsmen | 14 | Politically conscious | 13 | Clannish | 12 | Domineering | 21 | Selfish | 17 | Progressive | 15 | Violent | 10 |
| | Hardworking | 14 | Progressive | 13 | | | Cultured | 14 | Good farmers | 11 | Politically conscious | 14 | | |
| | Apathetic | 13 | Kind | 11 | | | Apathetic | 12 | | | | | | |
| | Uncultured | 12 | Money conscious | 11 | | | Fair, just | 11 | | | | | | |
| | Hedonistic | 12 | Cultured | 11 | | | | | | | | | | |
| | Friendly | 11 | Poor | 10 | | | | | | | | | | |
| | Unmannered | 10 | Hospitable | 10 | | | | | | | | | | |
| Total number of Indian responses | | 364 | | 438 | | 244 | | 335 | | 330 | | 309 | | 299 |

TABLE 1 (*continued*)

| Group holding the Stereotype | Group towards which Stereotype is held | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coloureds | | Indians | | Jews | | English | | Afrikaners | | City Africans | | Tribal Africans | |
| Africans | Colour consicous | 51 | Good in business | 29 | Money conscious | 20 | Hypocritical | 30 | Oppressive | 30 | Progressive | 25 | Backward | 28 |
| | Alcoholic | 15 | Dishonest | 20 | Good in business | 14 | Cunning | 20 | Prejudiced | 23 | Violent | 19 | Subservient | 17 |
| | Gay, happy | 10 | Hardworking | 15 | | | Educated | 11 | Frank | 22 | Educated | 13 | Hospitable | 13 |
| | | | Exploitative | 14 | | | Tolerant | 10 | Inhuman | 21 | Politically conscious | 10 | | |
| | | | | | | | | | Uncultured | 13 | | | | |
| | | | | | | | | | Snobbish | 12 | | | | |
| | | | | | | | | | Dogmatic | 11 | | | | |
| Total number of African responses | | 191 | | 216 | | 146 | | 207 | | 218 | | 209 | | 220 |

Government. Non-Europeans tend to dichotomize between the imputed blunt oppressiveness of the Afrikaner and the subtle hypocritical snobbishness of the English. Interestingly enough, the White subjects also accuse themselves of snobbery and intolerance, a finding which seems to indicate guilt feelings over the treatment of non-Europeans. Both Africans and Indians resent the imputed colour consciousness of the Coloureds and their desire to be white. There is, of course, more than a grain of truth in accusations of colour prejudice against Whites and Coloureds, though Africans and Indians are by no means devoid of it in the virulently racialist climate of South African society. Another interesting finding of the stereotypes table is the European dichotomy between the simple, unspoilt, honest, happy, tribal African who stays "in his place" and the insolent, rowdy, dishonest urban African who challenges and threatens White supremacy. Though this dichotomy is an old one, the disturbances of March-April 1960 (which were an African urban proletarian movement) may have reinforced the pre-existing dichotomy. The happy and musical stereotypes toward Coloureds are largely due to "Coon Carnival" at the Cape which is a Coloured tradition. The stereotype of Coloured alcoholism has also a "grain of truth" due to the "tot" system whereby European farmers in the Cape have traditionally given their Coloured workers a ration of cheap wine.

### 3. *Social Distance*

Social distance is measured by a 14-item schedule, that attempts to isolate two main variables: intimacy and equality in contract. Items one to seven in Table 4 hold intimacy constant (low in all cases) but range from subordinate to superordinate status, whereas items eight to 14 hold equality constant (equal status in all cases) but range from casual to intimate contacts. Three sets of scores are obtained by simple addition of rejective responses. An item by item score (possible range from 0 to 7) shows the number of groups rejected on a given item by a given subject (Table 4). Each subject also receives a group by group score (ranging from 0 to 14) which shows the number of items on which he rejects a given group (Table 3). Finally, the sum of a subject's rejective answers for all groups and on all items becomes his Social Distance (S.D.) score ranging from a possible 0 to 98 (Table 2). In all these sets of scores, the higher the score, the higher the social distance.

Table 2 confirms the hypothesis that women show more social distance than men in all three racial groups, and that social distance increases with the position of the respondent's "race" in the South African hierarchy. The

TABLE 2
MEAN SOCIAL DISTANCE BY RACE AND SEX
(N = 350)

| | Male | Female | Total |
|---|---|---|---|
| European | 35.15 | 36.46 | 36.01 |
| African | 24.70 | 26.65 | 25.34 |
| Indian | 28.10 | 39.30 | 31.64 |
| Total | 28.46 | 35.27 | 31.41 |

sex difference confirms Pettigrew's findings (9, p. 252). In South Africa as in many other countries, the taboos and penalties for crossing colour lines are stronger for women than for men. It is interesting to note that the sex difference is greatest among Indians, the group among which women are most sheltered from outside contacts. The Indian taboo against gainful employment of women is strongest, and Indian women, both Hindu and Muslim, are still restricted to a greater extent than Europeans and Africans in their movements outside the home. Concerning the racial difference in S.D., Europeans may be expected to show the most exclusiveness since their claim to rule is based on colour prejudice. Racial prejudice among the non-White groups probably is in large part a reaction against White racialism.

TABLE 3
MEAN NUMBER OF ITEMS (SOCIAL DISTANCE) ON WHICH A GIVEN GROUP IS REJECTED BY A GIVEN GROUP
(N = 350)

| | Rejecting Group | | | | | |
|---|---|---|---|---|---|---|
| | Europeans | | Africans | | Indians | |
| Rejected Group | male | female | male | female | male | female |
| Coloured | 6.68 | 7.09 | 3.38 | 3.19 | 3.54 | 6.53 |
| Indians | 6.95 | 6.66 | 4.38 | 4.13 | 1.15 | 0.91 |
| Jews | 2.29 | 2.46 | 4.02 | 4.77 | 4.74 | 6.14 |
| English | 0.85 | 0.96 | 2.52 | 2.94 | 2.14 | 3.86 |
| Afrikaners | 1.44 | 1.87 | 6.56 | 7.61 | 5.72 | 7.12 |
| City of Africans | 7.44 | 7.32 | 1.02 | 0.71 | 4.17 | 5.19 |
| Tribal Africans | 9.29 | 9.91 | 2.83 | 3.16 | 6.72 | 9.00 |
| Mean of means | 5.02 | 5.20 | 3.53 | 4.13 | 4.01 | 5.61 |

Table 3 shows that Europeans (mostly English speaking) reject tribal Africans most, followed by city Africans, followed by Coloureds and Indians. This finding does not agree with the Pettigrew and Mac Crone data nor with our hypothesis that Indians would be the most highly rejected group by the Europeans because Indians are viewed as threatening business competitors. Possibly, the March-April 1960 protest movement that was largely engaged

in by Africans, accounts for the higher European rejection of Africans as compared with Indians. Our findings confirm the Pettigrew and Mac Crone ones in showing a marked dichotomy in the answers of Europeans between the three White groups which are relatively tolerated, and the four non-White groups that are rejected (5, p. 694; 9, p. 247). Gentile White anti-Semitism is relatively mild by comparison with anti-non-European prejudice. These findings underline the strength of colour prejudice among South African Whites who, while recognizing internal divisions, are eager to maintain a united front against the "black danger." Pleas for "White unity" are a recurrent theme in South African politics. These South African findings call into question the hypothesis that prejudice against one out-group will tend to generalize to all out-groups. In the light of present findings we would reframe the hypothesis that generalization of prejudice will take place only in what Allport calls "functional" or character conditioned prejudice, i.e., the prejudice that satisfies a "need" in the "Authoritarian Personality," not in what Allport calls "conformity" or socially determined prejudice (1, pp. 68-73, 285-286; 8). In a racialist country like South Africa, the social pressure towards colour prejudice is such that it will be found among people who have no personality predisposition towards it at all.

African subjects, as predicted, reject Afrikaners most, as that group is associated with Nationalist oppression. Unlike White subjects, non-Whites do not show a marked dichotomy along colour lines. For example, Africans, contrary to prediction, reject English-speaking Whites to a lesser extent than tribal Africans, and reject Jews and Indians to nearly the same degree. Indians show the greatest distance towards tribal Africans and the second greatest towards Afrikaners. All three groups exhibit the least distance toward their in-group, but, whereas Whites dichotomize between White and Black, non-Whites dichotomize politically between Afrikaners and English. Indians, in their strong rejection of tribal Africans, also seem to use education or "civilization" as an important criterion of acceptance. Non-European anti-Semitism, while not as strong as anti-Afrikaner feelings, is stronger than anti-English sentiments, in spite of the fact that South African Jews on the whole tend to be more liberal than other Whites in South Africa.

Table 4 shows the extent of rejection of all races by item. The relatively high rejection on Item 1 is due to the fact that in South Africa, the master-servant relationship so closely follows colour lines. All groups tended to reject Whites as servants because the situation is almost inconceivable in the local context. As expected, intermarriage (Item 14) is most strongly rejected. Whites are almost unanimous in saying they would not marry

TABLE 4
MEAN NUMBER OF GROUPS REJECTED ON GIVEN SOCIAL DISTANCE ITEMS BY PEOPLE OF A GIVEN GROUP
(N = 353)

| Rejected as: | Europeans | | Africans | | Indians | | Mean of means |
|---|---|---|---|---|---|---|---|
| | male | female | male | female | male | female | |
| 1. Servant | 2.29 | 3.15 | 2.27 | 2.65 | 2.61 | 3.26 | 2.71 |
| 2. Shop assistant | 1.60 | 1.33 | 1.75 | 1.65 | 2.16 | 2.70 | 1.85 |
| 3. Business associate | 2.24 | 1.94 | 2.23 | 1.87 | 2.42 | 3.33 | 2.32 |
| 4. Business superior | 3.12 | 2.99 | 2.53 | 2.61 | 2.92 | 3.91 | 2.98 |
| 5. Teacher | 1.62 | 1.83 | 1.02 | 1.26 | 1.62 | 2.07 | 1.58 |
| 6. Minister of religion | 1.74 | 1.75 | 1.69 | 1.48 | 1.92 | 2.95 | 1.91 |
| 7. M.P. of your district | 3.14 | 3.14 | 2.73 | 3.03 | 2.76 | 2.93 | 2.93 |
| 8. Casual acquaintance | 1.05 | 1.30 | 0.80 | 0.97 | 1.20 | 1.23 | 1.12 |
| 9. Fellow student | 1.29 | 1.05 | 0.52 | 0.90 | 0.77 | 1.07 | 0.90 |
| 10. Neighbour | 2.76 | 2.75 | 1.66 | 1.52 | 1.68 | 2.26 | 2.10 |
| 11. Table guest | 2.69 | 2.74 | 0.84 | 1.23 | 1.24 | 1.72 | 1.74 |
| 12. Intimate friend | 3.07 | 3.58 | 1.88 | 2.00 | 1.86 | 2.84 | 2.53 |
| 13. Dance partner | 3.31 | 3.53 | 1.55 | 1.94 | 1.52 | 3.40 | 2.46 |
| 14. Husband or wife | 4.40 | 4.93 | 3.16 | 3.65 | 3.43 | 5.28 | 4.08 |
| Means of means | 2.45 | 2.57 | 1.76 | 1.91 | 2.01 | 2.78 | 2.23 |

non-Whites, Africans tend to reject Europeans as spouses, and Indians tend to reject both Europeans and Africans. The discrepancy between the mean scores of the three groups on Item 14 is not very great, indicating that non-Whites (contrary to White racial mythology) are no more eager to marry Whites than the other way round.[6] Business superiors and Members of Parliament (Items four and seven) are second or third highest for all three groups. European rejection of non-Europeans on Items four and seven is probably dictated by the desire to maintain White supremacy (or, to put it in White South African terms, "White civilization") while non-Whites reject Afrikaners in their wish to put an end to present oppression and reject tribal Africans on grounds of incompetence to hold these positions. It will be observed that in Items one to seven which all imply low intimacy of contact, there are no marked discrepancies between the mean scores of the three racial groups. On Items eight to 13, however, all of which imply *equality* of contact, non-Europeans, more particularly Africans, are much

[6] Miscegenation, whether marital or non-marital, is a criminal offence in South Africa punishable with up to seven years imprisonment.

more tolerant than Europeans. Furthermore, European rejection of non-Whites increases much faster with *intimacy* of equal contact than it does for non-Europeans.[7] In other words Africans, who are now at the bottom of the racial hierarchy, are most willing to have egalitarian social contacts across racial lines, short of miscegenation; Europeans, who are at the top, resist such contacts, most particularly the more intimate ones; Indians fall in between the other two groups in both position in the hierarchy and acceptance of equal contacts. These findings suggest the hypothesis that acceptance of egalitarian contact is inversely proportional to hierarchical position.

Prejudice has been found to be related to religion in many studies. Pettigrew and Mac Crone found that Jews are less prejudiced than other Whites (5, p. 696; 9, 248). Of the White subjects in the present study, Jews show by far the smallest social distance, followed by those who do not claim any religious affiliation. Members of the Dutch Reformed Churches, who are almost all Afrikaners, show the highest social distance. Catholics, Anglicans and members of other Protestant denominations occupy an intermediate position. Among Indians, Hindus show more distance than Muslims, which is contrary to expectation. One should have expected that Hinduism with its eclectic and tolerant outlook would lead to greater acceptance of out-groups than Islam with its exclusivistic creed.

We predicted that, regardless of religious denomination, the amount of "religiosity" among Europeans would be related to social distance. Our hypothesis was that people who claim to be "not religious at all" and those who claim to be "very religious" would score lower than those who say that they are "slightly" or "moderately" religious. Both extreme groups presumably react against the lukewarm institutionalized religion of South African Whites which has often rationalized racialism, or, at best, evaded the moral dilemma of racial inequality.[8] The data strongly support the hypothesis as shown in Table 5. Among Africans, social distance decreases with religiosity whereas the reverse is true of Indians (Table 5). As an *ex-post facto* explanation for these findings, we suggest that, as all but one of the Africans claim allegiance to Christianity, and as Christianity is also the majority religion of Whites and Coloureds, then acceptance of these out-groups by Africans increases with the degree of religiosity. Conversely, these findings

[7] The one exception is the rejection of dance partners by Indian women. This is probably due to the fact that heterosexual dancing is not yet a generally accepted practice for Hindu women and is strongly condemned for Muslim women.

[8] Allport makes a distinction between "institutionalized" or "extrinsic," and "interiorized" or "intrinsic" religion (1, pp. 444-457; 2, pp. 263-265). His distinction is related to our hypothesis.

TABLE 5
RELIGIOSITY AND SOCIAL DISTANCE

| | Mean SD score | | |
|---|---|---|---|
| | Europeans | Africans | Indians |
| Not religious at all | 23.83 | 36.75 | 20.17 |
| Slightly religious | 40.13 | 27.54 | 27.57 |
| Moderately religious | 38.17 | 25.77 | 31.46 |
| Very religious | 27.93 | 20.08 | 41.88 |
| | 36.85 | 25.35 | 30.93 |
| | N—117 | N—95 | N—136 |

would also confirm the impressionistic observation that there is a current rejection of Christianity among radical African intellectuals who view Christianity as an instrument of White domination. Among Indians, on the other hand, 82.1 per cent of those who answered the question belong to Islam or Hinduism, i.e., religions which are hardly represented in the other "racial" groups. It can therefore be expected that the more devout Muslims and Hindus will reject out-group on religious grounds.

Numerous studies of prejudice have shown it to be related to occupation and education. In South Africa, Pettigrew found that White subjects whose fathers are in manual occupations are more distant towards non-Whites. Mac Crone on the other hand found that occupation was not a significant determinant of social distance (5, pp. 701-704; 9, p. 252). In general, our own findings show no clear and simple relationship between social distance and either father's occupation or father's educaiton. Europeans and Indian subjects whose fathers have attended university score lower than others on S.D., but the difference is not found among Africans. Among Europeans, sons of farmers and business men score higher than the others, but there is no significant difference between manual and non-manual occupations. Sons of manual workers score higher among Indian and African subjects, but only in the case of Indians is there a steady decline (with one minor reversal) in S.D. scores as one goes up the occupational scale. Of the three "racial" groups, only Indians show a clear tendency for social distance to be inversely related to both education and occupational status.

### 4. *Actual Contact*

A battery of ten items measures actual contact across racial lines, by asking the subjects whether they have, in fact, met persons of a given group in a given situation. Table 6 shows the mean number of negative answers, so that the higher the score the lower the actual contact. European and Indian

TABLE 6
MEAN ACTUAL CONTACT BY RACE AND SEX
(N = 351)

| | Male | Female | Total |
|---|---|---|---|
| European | 33.98 | 35.94 | 35.27 |
| African | 31.22 | 28.94 | 30.50 |
| Indian | 35.00 | 37.36 | 35.73 |
| Total | 33.61 | 34.58 | 34.12 |

women tend to have less out-group contact and African women more contact than the men in the respective groups. As expected, the total for all subjects shows that women have less contact than men, but the difference is small. Africans associate (or claim to associate) to a greater extent with out-groups than either Europeans or Indians, and there is no significant difference between the latter two groups.

TABLE 7
MEAN NUMBER OF ITEMS ON WHICH SUBJECTS DO NOT ASSOCIATE WITH A GIVEN OUT-GROUP
(N = 351)

| Group not associated with | Group not associating | | | | | |
|---|---|---|---|---|---|---|
| | Europeans | | Africans | | Indians | |
| | male | female | male | female | male | female |
| 1. Coloureds | 7.43 | 7.96 | 3.12 | 2.45 | 3.25 | 4.15 |
| 2. Indians | 6.63 | 7.11 | 4.33 | 3.32 | 0.29 | 0.34 |
| 3. Jews | 3.23 | 2.84 | 7.96 | 7.81 | 8.06 | 8.20 |
| 4. English | 1.00 | 0.91 | 5.49 | 4.90 | 5.60 | 5.12 |
| 5. Afrikaners | 1.63 | 2.01 | 7.43 | 7.48 | 7.42 | 7.41 |
| 6. City Africans | 6.52 | 6.86 | 0.94 | 0.68 | 3.83 | 4.59 |
| 7. Tribal Africans | 7.52 | 8.01 | 1.57 | 2.29 | 6.45 | 7.61 |
| Mean of means | 4.85 | 5.13 | 4.46 | 4.13 | 5.00 | 5.34 |

Table 7 shows the mean number of items on which there has been no association with members of a particular group. As for social distance, Whites show a sharp dichotomy between all White groups with which contact is relatively free and all non-White groups with which contact is restricted. Non-European respondents, on the other hand, show no sharp dichotomy along colour lines. Indians show a marked difference in contact with urban as opposed to tribal Africans, thereby indicating a cultural rather than a racial barrier to interaction. The relatively low contact between

non-Europeans on the one hand and Afrikaners and Jews is probably due to the small number of these two European groups in Natal.

Turning to Table 8, we see the mean number of out-groups with whom subjects do not associate in a given situation. For Item one, contact is limited by the fact that many of the non-White subjects do not have servants and that Whites in South Africa are almost never servants. Except for that item,

TABLE 8
MEAN NUMBER OF OUT-GROUPS WITH WHICH SUBJECTS DO NOT ASSOCIATE IN GIVEN SITUATIONS
(N = 351)

| Has not met as: | Europeans | | Africans | | Indians | | Mean of Means |
|---|---|---|---|---|---|---|---|
| | Female | Male | Female | Male | Female | Male | |
| 1. Servant in your home | 4.26 | 4.23 | 5.10 | 5.70 | 4.38 | 4.28 | 4.62 |
| 2. Shop assistant | 1.49 | 1.20 | 1.71 | 1.76 | 2.98 | 2.82 | 2.05 |
| 3. Fellow student | 2.88 | 2.78 | 2.35 | 2.28 | 3.36 | 3.49 | 2.93 |
| 4. Table guest | 4.04 | 4.18 | 2.77 | 3.22 | 3.24 | 3.33 | 3.51 |
| 5. Visitor in their home | 3.38 | 3.45 | 2.10 | 2.67 | 3.14 | 2.95 | 3.00 |
| 6. Childhood playmate | 3.75 | 3.83 | 3.23 | 3.67 | 4.26 | 3.89 | 3.80 |
| 7. Sport partner | 4.24 | 4.10 | 3.45 | 3.22 | 4.74 | 4.02 | 3.96 |
| 8. Casual acquaintance | 2.36 | 1.55 | 1.71 | 2.57 | 2.69 | 2.16 | 2.04 |
| 9. Intimate friend | 4.53 | 4.43 | 3.26 | 3.63 | 4.64 | 4.22 | 4.16 |
| 10. Neighbour | 4.38 | 4.25 | 3.35 | 3.61 | 3.90 | 3.95 | 3.96 |
| Means of means | 3.59 | 3.40 | 2.89 | 3.12 | 3.74 | 3.50 | 3.41 |

actual contact tends to decrease as the intimacy and the egalitarianism of the contact situation increases. Africans show consistently more out-group contact than the other two groups (except on Item one for the simple reason that, of the three groups, Africans are the least able to afford servants). The hypothesis may be advanced here that a subordinate group will tend to report (though not necessarily in fact, experience) more out-group contact with superordinate groups than the other way around. Outside contact enhances the status of a member of a subordinate group and hence, is more likely to be reported than in the reverse situation.[9]

### 5. *Social Distance and Actual Contact*

The relationship between prejudice and actual contact has been the object of much experimental work in the United States. Allport has summarized these results with the proposition that equal status contact not involving

[9] A similar finding applies to a Mexican study (11).

competition leads to tolerance (1, pp. 281-282). In view of these American findings we hypothesized that actual contact would be inversely related to social distance. Table 9 shows that while the relationship exists, it is far

TABLE 9
SOCIAL DISTANCE AND ACTUAL CONTACT
(Frequencies)

| | Social distance | | | |
|---|---|---|---|---|
| Actual contact | low | medium | high | total |
| High | 72 | 21 | 9 | 102 |
| Medium | 65 | 63 | 35 | 163 |
| Low | 26 | 18 | 36 | 80 |
| Total | 163 | 102 | 80 | 345 |

from a perfect one. High social contact persons tend to be low on social distance; subjects low on social distance tend to be high on contact, and high social distance subjects tend to be low in actual contact. However, low actual contact is not a good indication of high social distance, presumably because many relatively unprejudiced persons have no opportunities for contacts across racial lines.[10] A breakdown of Table 9 by the three racial groups in the sample reveals that the degree of relationship between the two variables is slightly higher for Europeans than for either Africans or Indians. This could be expected from the fact that the unprejudiced White is freer to initiate out-groups contact and need not fear rebuff as the non-European would.

### 6. *Political Views*

The White subjects were given a choice of three alternative policy lines and asked which one they favoured for each of the seven groups. The alternatives might be labelled benevolent paternalism, egalitarianism and territorial apartheid.[11] As expected, White subjects overwhelmingly favour the egalitarian alternative for the three White groups. For Africans, the majority of Europeans are in favour of the paternalistic choice, while for Coloured they are nearly equally divided between the paternalistic and the egalitarian choices. For Indians, opinions are almost equally divided between the

[10] An almost identical relation between actual contact and social distance was found in Mexico (11).

[11] The three alternatives were: (*a*) People of the X group ought to be helped and guided as a kind but just father does with his children. (*b*) People of the X group ought to be treated in the same way as people of one's own group. (*c*) People of the X group ought to be left alone in their own areas to manage for themselves.
The same question was asked to non-White subjects, but was found to be ambiguous or meaningless to many of them. Their answers had thus been discarded.

apartheid and the egalitarian choice. These data further illustrate the dichotomous outlook of South African Whites towards themselves on the one hand and non-Whites on the other. The minority of Whites advocating an egalitarian solution for non-Europeans score significantly lower than the others on social distance and have more interracial contacts.

TABLE 10
COMPARATIVE FINDINGS OF THREE ATTITUDE STUDIES OF WHITE SOUTH AFRICAN STUDENTS

| | Mac Crone | Pettigrew | v. d. Berghe |
|---|---|---|---|
| Afrikaners most prejudiced of the Europeans | Yes | Yes | Yes* |
| Jews least prejudiced of the Europeans | Yes | Yes | Yes* |
| Sons of farmers more prejudiced than other occupations | Yes | — | Yes |
| Sons of manual workers more prejudiced toward Non-Whites | No | Yes | No |
| White women more prejudiced than men | No | Yes | Yes |
| Dichotomous attitudes of Whites towards White and Non-White groups | Yes | Yes | Yes |
| Indians most rejected by Whites | Yes | Yes | No |

* Number of cases is too small to reach statistical significance.

The last part of the questionnaire consisted of three short essays on the subject's solution for the "South African race problem," the subject's prediction of events in the next twenty years, and his assessment of the last twenty years. The "solution" essay was answered almost exclusively in political terms. We predicted that non-Europeans would be more radical than Europeans and men more radical than women. The racial difference is completely borne out by the data. Only 8.0 per cent of the Whites advocate unqualified equality, and a further 23.2 per cent advocate equality qualified by a "civilization" or educational test. The respective percentages for Africans are 55.6 per cent and 33.3 per cent, and for Indians, 51.1 per cent and 19.4 per cent. Only five of the non-European respondents (four of them Africans) advocate a reversal of the present situation where Europeans would be in a sub-ordinate position. This finding should not, however, be interpreted as showing the absence of such anti-White opinions, but rather as indicating reluctance to admit such opinions at the verbal level. The predicted sex difference is found only among Africans. Contrary to prediction, European men are politically more conservative than women. There is no sex difference among Indians.

Among Europeans, conservative political views are related to high social

distance, but no such relationship exists among non-Whites. We would suggest that conservative Whites want to maintain political inequality largely because of their fear of social mixing, and, above all, of miscegenation. Non-Whites, on the other hand, avoid contacts with Whites, irrespective of their own political views, because of fear of discrimination.

The "prediction" essay shows that non-Whites tend to be more radical than Whites in their forecasts, but the discrepancy is not nearly as great as on the "solution" question. Whites and non-Whites largely agree in expecting great change, but tend to disagree in their willingness to accept change. Most Whites expect more change than they are prepared to accept. Among non-Whites, some anticipate less change than they hope for, though the majority expect their desire for equality to be realized. Only 12.8 per cent of the Europeans and 8.4 per cent of the non-Whites expect the *status quo* to last for another 20 years, whereas 15.2 per cent and 23.5 per cent respectively anticipate a Black government to the exclusion of Whites or of all non-Africans.

Whites and non-Whites share a nearly equal pessimism about the way change will come. 54.4 per cent of the Europeans and 58.0 per cent of the non-Europeans say that they expect large-scale violence and bloodshed. Men tend to anticipate violence more than women. While this finding is undoubtedly coloured by the police shootings a few weeks previous to answering the questionnaire, such pessimism is probably realistic.

Whites and non-Whites are likewise in agreement in their assessment of the past: 81.0 per cent of the sample say that the racial situation has deteriorated in the last twenty years, and only 6.7 per cent say that it has improved. The Whites who say things have improved mostly mention a rise in living standards, while the non-Whites base their optimism on the hope that the extreme reactionary policies of the Nationalist government will precipitate the struggle for liberaton.

## E. Summary

A questionnaire study was conducted on a sample of 383 urban middle-class students in Durban. One of the most striking, if not unexpected findings is the great difference in the attitudes of European as opposed to non-European respondents. Racialism and prejudice, though not absent among Africans and Indians, is strongest among Europeans.

Social distance increases with the subject's position in the South African racial hierarchy, being highest among Europeans and lowest among Africans. Women are more distant than men. Social distance is related to religion, but

in a different way for each racial group. There is no clear relationship between social distance and either parental occupation or education. Europeans reject non-Europeans in situations implying equality more than Africans or Indians reject Whites.

Actual contact findings generally resemble the social distance data. Europeans restrict their contacts along colour lines to a greater extent than either Africans or Indians. Actual contact and social distance are related to one another, but low contract does not mean high distance as opportunities for interracial contact in South Africa are limited.

Of all possible criteria of group membership "race" is mentioned most often, a finding which accurately reflects the importance of colour in South African society. Anti-Indian stereotypes are similar to anti-Semitic ones. Europeans tend to dichotomize between the "good" tribal African and the "spoiled" city African. Non-Whites distinguish between the bluntly oppressive Afrikaner and the hypocritically bigoted English-speaking White.

As expected, Africans and Indians are more radical in their political views than the Europeans who are in a privileged position. All racial groups agree in expecting considerable political change, mostly through violence, and in thinking that the racial situation has worsened in the last twenty years.

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# THE PERFORMANCE OF DUTCH AND ZULU ADULTS ON SELECTED PERCEPTUAL TASKS*

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## A. INTRODUCTION

"One of the primary phenomena of social psychology," writes Gardner Murphy (11), "is the special selection which alert awareness presupposes—the fact that one learns to perceive as one's epoch and one's community perceive, to think as they think, to feel as they feel." In clinical studies, for example, marked differences have been shown to exist between white and native populations in Central and Southern Africa (4, 9, 15, 17, 18). Some data have been gathered relative to more general problems such as mental health (20), social values (10), and racial intelligence (2); but somewhat less is probably known about normal perception (3, 4). In one way, this is an unusual situation and opportunity since perception has been one aspect of human experience which has lent itself most readily to systematic experimental study.

Perhaps the earliest and most noted perceptual work among primitives was done by the Cambridge Anthropological Expedition to British Guinea in 1898. The primary stimulus used in their studies was the Muller-Lyer illusion. Much of the recent work, however, (influenced by the popularity of clinical orientation) has used projective techniques (e.g., 6) or standardized cognitive tests on diseased individuals (e.g., 1).

The present study was part of an attempt to gather—under relatively controlled conditions—perceptual and cognitive data from normal, young Zulu and Dutch-speaking adults.

## B. METHOD

### 1. *Tests and Measures*

*a. Length estimation.* Three geometric figures, black on white cardboard, were presented to each subject. The figures were a cross (equal lines 14″ × ½″), a square (5″ × 5″), and two parallel lines (14″ × ½″, 3″ sep-

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[1] This study was conducted during 1958-1959 while the author was a graduate student at the University of Natal, Durban, So. Africa.

aration). The *S* was seated in a normally lighted room at a distance of twelve feet from the figures. The figures were presented one at a time in the above order, and the *S* was asked to estimate the dimensions.

*b. Circle size matching.* Eight black circles were drawn on a white cardboard background and mounted at a distance of twelve feet from where the *S* was seated. The circles were consecutively numbered and had radii of 1, 1.1, 1.2, 1.3, 1.5, 1.7, 1.9, 2.1 inches. Each *S* was given four cards of white cardboard with black, lettered circles having radii of 1.1, 1.3, 1.7, 1.9 inches. The task was then to look at the cards one at a time and match the lettered circles on the cards with the numbered circles on the wall. *S*s were permitted to correct their estimates once, if they requested to do so, and the corrected scores were used in calculating the results. Both length estimation and circle matching tests are similar to those used by Freedman, Grunebaum, and Greenblatt (7) in studying perceptual changes after sensory deprivation.

*c. Time estimation.* Each *S* was asked to estimate one minute. He was instructed to begin at the click of the stop watch and to tell the experimenter as soon as he believed one minute had passed. This method of time estimation was selected over several other possible ones on basis of a previous study by Clausen (5).

*d. Autokinetic word association.* The Autokinetic Word Association Test (12) was used primarily to measure the degree of suggestibility. The *S* was seated in a dark room twelve feet from a dim point of red light. He was instructed to watch the light and to draw its movements on the paper tablet provided. He was told that not only would he see the light move but that he should see it spelling out numbers, letters, words, or even sentences or that it might outline an object. At the end of six one-minute trials, the *S* was asked to estimate how much the light moved and the direction of the movement.

*e. Gottshaldt embedded figures.* Each *S* was given one trial on a series of selected Gottshaldt Embedded Figures (19). He was presented first the complex figure to look at, then given the appropriate simple figure for about fifteen seconds, and finally given the complex one back again. The *S* was allowed to look at the simple figure again if he wished but never simultaneously with the complex one. The time recorded was the total time used until the *S* finished tracing correctly the simple figure within the complex one. The figures used were (as coded by Witkin (19)): B1, B2, C1, C3, E2, E5, G1, G3.

### 2. *Subjects*

Two major cultural groups were compared—Zulu (negroid) and Dutch-speaking Europeans (caucasian). All *S*s were males resident in South Africa since birth. They ranged between the ages of 19 and 25 and had no formal education beyond the sixth year. The Zulu group averaged 24 years with four years formal education; the Dutch group averaged 22 years of age with five years of education.

Zulu *S*s were recruited through contacts made in the out-patient department of a city hospital. Dutch-speaking *S*s were more difficult to locate due to a considerably higher level of education of most persons within the specified age range. Consequently, the Dutch *S*s had to be recruited over the period of a year from various rural areas. All *S*s of both groups were able to speak some English and some Zulu. All *S*s were paid ten shillings for approximately one hour of testing. No subject, reportedly, had ever before participated in testing of this kind in a laboratory situation.

## C. Results

Dutch *S*s typically showed more accuracy in the performance of perceptual tasks than did Zulu *S*s. Almost all *S*s tended to underestimate the size of geometric figures and the passage of one minute of time, but Zulus as a group gave significantly smaller estimates (see Table 1).

Zulus had a larger number ($\alpha \leqslant .05$) of responses in the relatively unstructured situation of the Autokinetic Word Association Test. These responses were usually reports that the light outlined some animal shape such as a calf, sheep, or dog.

The most striking difference, however, was the inability of Zulu *S*s to match the speed of the Dutch *S*s in locating the embedded figures in the Gottshaldt Test (see Table 1). The mean time for the Dutch *S*s was 9 seconds per figure; the mean time for Zulu *S*s was 45 seconds per figure. Two Zulu *S*s were unable to complete the series of eight figures after six minutes, and testing was discontinued.

## D. Discussion

Wherever significant differences were found between the groups, the Zulus were shown to be less accurate or capable in performing the task. Such results confirm the common opinion that various cultural groups "see the world differently." Thouless (16) has claimed, for example, that Indian students show a greater tendency toward object consistency than do English students. Hudson (8) concluded that illiterate and isolated cultures in

TABLE 1
DISTRIBUTION OF SCORES OF ZULU AND DUTCH SUBJECTS ON SELECTED TESTS

| Test | Combined median | Dutch *Number of scores* Above median | Dutch *Number of scores* Below median | Zulu *Number of scores* Above median | Zulu *Number of scores* Below median | p |
|---|---|---|---|---|---|---|
| Cross | 12.5 in. | 10 | 1 | 4 | 8 | $\alpha \leqslant .01$ |
| Lines | 13 in. | 9 | 2 | 4 | 8 | $\alpha \leqslant .05$ |
| Square | 6.5 in. | 7 | 4 | 6 | 6 | $\alpha > .10$ |
| Circle match | 3 corr. | 5 | 6 | 5 | 7 | $\alpha > .10$ |
| Time estim. | 42 sec. | 10 | 1 | 3 | 9 | $\alpha \leqslant .005$ |
| Word assoc. | 1 resp. | 1 | 10 | 6 | 6 | $\alpha \leqslant .05$ |
| Gotts-shaldt | 215 sec. | 2 | 8 | 12 | 0 | $\alpha \leqslant .001$ |

Africa characteristically have two-dimensional rather than three-dimensional perception.

Our data suggest that certain aspects of even two-dimensional perception may be a constricted or unlearned process among African tribes. Since both our experimental groups were relatively isolated and uneducated, the question of genetic determinates could be raised. Another study demonstrated substantially the same inability on the part of Zulu college students to accurately estimate figure sizes and to locate embedded figures (13). Regardless of the relative contribution of learned and genetic factors, certain visual capacities or potentials of the human being have been suppressed, constricted, lost, or diminished among young adult Zulus.

## E. SUMMARY

A series of visual and cognitive tasks were presented to Dutch and to Zulu subjects in South Africa. Zulus were significantly less accurate in estimating figure size and passage of time. Their error was typically underestimation. The greatest difference, however, was the difficulty Zulu subjects had in attempting to locate a simple two-dimensional geometric figure embedded in a more complex design. This study, and the others which have been cited, confirm the propositions that certain perceptual organizations are characteristic of cultural groups, that even relatively "simple" processes may be affected by environmental conditions, and furthermore that some of these perceptual skills may not be re-acquired even after extensive education.

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# ETHNOCENTRISM AND STEREOTYPES AMONG SANTHALS*[1][2]

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## A. Introduction

A minority group accepts the influence of neighbouring majority groups. This is not only shown in its customs and traditions, mores, taboos, and dresses, but in their ideals and stereotypes (2). Santhals in Midnapoore live like small pockets of minorities surrounded for ages by their more civilized usurpers. Although they are not fully integrated with the majority groups, they have taken in many of their virtues and vices. The present brief report is an attempt to elicit Santhals' attitudes and stereotypes towards their own customs and the extent of their cordiality with other groups.

## B. Method

All data were collected by means of interviews. The interviewing technique was somewhat different from that in individual interviews. A representative group of people from the selected Santhal village was chosen for group interviewing. The group consisted of the elders of the village, as well as some young men and women. Questions in the interview schedule were taken from Campbell and Levine (1) and were directed to the group as a whole. Only some of their questions were included since all were not considered relevant for the present study. Very often, there was much discussion among the members of the group before giving a final reply. But when the reply came, it reflected unanimity. The data are based on interviewing groups from two villages separately. It is surprising that there was absolute agreement between them so far as the essential points in the reply

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[1] The author is indebted to Prof. R. Rath for a critical reading of the manuscript.

[2] Santhal (or Santal)

The most numerous aboriginal tribe of Midnapoore district in West Bengal. The neighbouring Hindu groups are: Satgop (Bengali agriculturist), Majhi (fisherman), Kamar (blacksmith), Karan (high caste Hindus) and Hadi (low caste Hindus).

Oriya and Bengali: Terms standing both for the language and people of the Indian states, Orissa and Bengal, respectively. (See Hunter, W. W.: The imperial gazetteer of India. Vol. 9, 1886, London: Truber & Co; and The Encyclopaedia Britannica Vol. 19, 1939.)

were concerned. The minor deviations found were in the nature of supplementary information. These intra and intergroup unanimities should lend further support to the reliability of the data presented below.

Two villages were arbitrarily selected for this study. They belonged to Midnapoore, West Bengal on the border of Orissa. The villages were (1) *Zunpadia,* having a total number of about 20 families in all; and (2) *Zorka,* a large village consisting of more than 200 families. The villages were situated at a distance of one and a half miles from each other separated by open country. Ordinary Midnapoore villages were all around these Santhal habitations, within a radius of one mile. The Santhals were all farmers or day labourers although occasionally they took to hunting. They had similar farm yards like any other farmer and kept cattle and poultry. They could understand Oriya and Bengali.

The interview was conducted with the help of two Santhal interpreters. One of them was a school teacher and knew Oriya, English, and Bengali besides his mother tongue, Santhali. The other was an influential young enlightened Santhal who could speak fluent Oriya and Bengali. The interview questions were first read out in Oriya to the villagers by the author after which the interpreters explained the questions in Santhali, if required.

The interview aimed at obtaining information on intergroup relations, intergroup stereotypes, aggression training, authority pattern in family and community, child rearing and adult beliefs. It lasted for about two hours. Quick rapport was established because most of the villagers were share-croppers of one of the relatives of the author. Even after two hours of interview, many villagers gathered round the author to know more about the towns and the lands he has visited, which is a further proof of the rapport.

## C. Results and Discussion

### 1. *Intergroup Relationship*

No group was perceived by Santhals to be as good as their own tribe. For, the Santhals rated themselves as generally honest and trustworthy and none of their neighbouring groups were perceived in the same way. Of the neighbouring groups, Satgaps (Bengalees) were liked least, next came Karans (Oriya Kayasthas). The reason was: these people are educated and do not even trust God. Next in order of hate came Muslims, Mahantas (an aboriginal tribe more civilized than Santhals), Hadi, Majhi and Kamar (Blacksmith). The last group seemed to be friendly to Santhals. This may be so because the Santhal farmer may be depending heavily for the supply and ready repair of his farm tools on the blacksmith.

However, Hadis (Sweeper) turn out to be considered as the meanest and the lowest class. Santhals use the term 'hadi' as an abuse.

In their own group, dishonest and untrustworthy individuals are hated; and what must seem strange in the frame of reference of our society, people unwilling to marry are despised. The Santhals admit that they have borrowed language, clothes, ornaments from the neighbouring Hindus; but have not adopted the Hindu forms of abuse.

### 2. *Self-stereotypes*

Very often, the stereotypes attributed to the minority group by the majority groups tally with those the minority groups ascribe themselves. This is a repeated finding in several social psychological studies. In that light it is expected that the self-images of Santhals may be very much akin to what their more civilized neighbours think about them.

The Santhal perceives himself as hard-working, brave and generous. But he thinks himself to be both intelligent and stupid: intelligent because he knows all about the growing of crops and vegetables and stupid because he is illiterate and does not know what is happening in the world outside his village and police post. He likes to be thought of as generous and peaceloving, but at the same time rates himself as impulsive and quick tempered. He thinks he is clean. He admits that Santhals are not moral sexually, for the men and women have to work together. He is not strict with his children, not domineering and never ambitious. He is self-controlled, not proud. Men and women are equal and one does not boss over the other. He rates himself as possessing strong magical powers. He is religious. He neither considers himself as extravagant, nor thrifty because he has so little to spare.

### 3. *Aggression Training*

True to their self image, the Santhals appear to be a docile, nonaggressive people. Their children are not encouraged to fight. If they start fighting, the method of stopping them is only mildly aggressive; i.e., scolding. Children seldom beat adults and when they do so, the adult is one of their close relatives. If they beat parents, they are explained about its undesirability and are only threatened. When a grown up boy beats a member outside the family, a meeting is called and the cause investigated. It appears, therefore, that children are not taught aggressive patterns of behaviour nor are they handled aggressively.

### 4. *Authority Pattern*

Santhals do not appear to be particularly authoritarian or autocratic in their behaviour with sons and wives. Of course, sons are expected to obey their parents even after marriage much as their counterparts in the more civilized groups do. They have also to obey their maternal uncles and aunts. But if sons do not obey their parents, they are neither beaten nor ostracised, but only given a plot of land by their father to build a new house and live separately. So also, if a man disobeys the headman, it is properly investigated and the cause of action is democratically decided in a meeting. Wives do not have to obey every command of their husbands. If unreasonable, the husband's command is not heeded. However, extremely disobedient wives are divorced. Only husbands are entitled to divorce. Dissatisfied wives just run away. Consistent with the practice in orthodox Hindu families, Santhal wives do not eat from the same plate with their husbands. But this should not be construed as a mark of respect for the husband, for husbands and wives may sit side by side in public. If need arises, the wife massages husband's feet as often as the husband massages the wife's feet. But respect is shown to husband by serving food and waiting at the table. Polygamy is allowed; but wives are not ranked. The reason: if they are ranked, they will not stay.

### 5. *Child Rearing*

In many primitive groups, children are handled roughly. Their needs are not attended to, their frustrations are not removed. This facilitates the growth of a detached philosophical temperament. Child rearing practices are, therefore, worth studying in order to comprehend the personality of the average adult in the group. The Santhals seem to differ little in the way they bring up their children from the neighbouring Hindu community. Their children cry when they feel uncomfortable and then are held and fed. They sleep in the same bed with parents until they are four or five years old. Weaning also does not start earlier than the third year except when the mother expects another child before the child is three. Weaning is done in much the same manner as it is in other communities—by putting something hot on the nipple. Since this is not done until the child is three, he does not suffer from early rejection and insecurity. Toilet training is not strict. A child is expected to control defecation when four and urination when six. Otherwise he is punished. The grandparents are the child's early caretakers, governors and teachers. But children are most afraid of their fathers and maternal uncles. Children are discouraged to steal fowls or goats belonging

to others and may be beaten if they do so. At the age of six a girl should conceal her genital and at seven a boy has to do so. Boys and girls start dressing up differently between the ages of 10 and 12.

Consistent with many other tribes, the transition to adolescence is smooth and unnoticed. No initiation ceremony is held when boys and girls reach puberty.

### 6. *Adult Beliefs*

The beliefs about the cause of epidemics and famines held by Santhals can be still found among interior Hindu villages. According to Santhals, terrible diseases sweep the land when the village goddess gets angry. Famines are likewise caused when sins accumulate in a community and people become dishonest. The traditional treatment in disease consists in calling the 'Ojha' and propiating the goddess. 'Diasi' is also consulted. The 'Ojha' is the magic-man taken from the neighbouring Hindu community while 'Diasi' is the traditional oracle and witch-doctor. The Santhals do not seem to attribute wealth to supernatural favours. A man becomes wealthy, according to Santhals, either due to his own earnings or by cheating others. On the other hand, one of the causes of poverty is given as sinning, apart from such natural causes as laziness, cheating and chronic intoxication.

The Santhals believe that hatred should usually be concealed. But he becomes quite aggressive in matters of extramarital sex relations. If a man has sex relations with another man's wife, he is beaten up severely and is even killed.

The Santhals are not particularly charitable, maybe because they are poor. If a man starved in the village, he is given food only for a day or two and then left to himself.

## D. Summary and Conclusions

An overview of the beliefs and practices among Santhals does not suggest any characteristic infantilism in their personality. The Santhals appear to have quite rational attitudes about child rearing and relation between man and woman. They seem to be more sensible in aggression training than us. Their attitude towards their civilized neighbours is reality-oriented. Their stereotypes about themselves do not reflect any delusions of grandeur. They are peace loving. But they admit to be impulsive. Perhaps in their society, impulsiveness is never deprecated. Otherwise, their emotions are matured and they seem to have a good control over their emotions, since every action is postponed until a general meeting is called to discuss a controversial issue.

The Santhals are found to have many similarities with average Hindus.

They show great respect for age and parental authorities. Intimate relation between parent and child does exist. Their family structure is much like Hindu families. The children are weaned late. The authority pattern is very similar to that in Hindu families insofar as the child has to obey several adult members besides his own father. Taylor (3) has pointed out that these are some of the traits of orthodox Hindus.

In short, no striking difference in personality can be discovered between the Santhals and their more civilized neighbours. The little cultural difference still noticeable may be usually found between any two non-aboriginal communities, as for example between Oriyas and Bengalees. But the Santhal perceives the neighbouring civilized groups as different from him at least in one important way—they are educated and do not trust even God. Obviously the Santhal cannot trust them.

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# THE SOCIAL DISTANCE ATTITUDES OF NEW ZEALAND STUDENTS TOWARDS MAORIS AND FIFTEEN OTHER NATIONAL GROUPS*

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## A. INTRODUCTION

All but a few of those studies concerned with attitudes towards "other peoples," based on the Social Distance method (3) have been carried out in the United States. The exceptions include studies by Dodd (4) in the Near East, Ansari (2) and Adinarayan (1) in India, Hunt (6) in the Philippines, and Pettigrew (7) in South Africa. This report is based upon research carried out within New Zealand in order to provide data concerning the degree to which white New Zealanders are prepared to socially accept members of other national groups.

In view of the findings of Triandis and Triandis (11), that race is the most important determinant of social distance among white *Ss*, it was considered likely that social acceptance of a particular group by New Zealand *Ss* would depend upon the extent to which members of the group in question were judged to be physically similar to white New Zealanders.

A focal point in the present study was an investigation of the social distance attitudes of white *Ss* towards Maoris, a colored minority providing seven per cent of New Zealand's total population of two and one-half million. Although the existence of prejudice against the Maori has been demonstrated by Thompson (9, 10) and by Vaughan and Thompson (12), the intensity of this prejudice, in terms of the extent to which whites are prepared to accept Maoris, is not known.

This research, therefore, was designed to examine the social distance attitudes of a selected group of white New Zealand *Ss* towards: (*a*) a number of national groups in general; and (*b*) Maoris in particular.

It was hypothesized that:

1. There would be a positive correlation between the amount of social distance (particularly in terms of marriage preference) accorded to all groups

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and the degree to which these groups were judged to be physically similar to white New Zealanders.

2. More social distance (particularly in terms of marriage preference) would be accorded to Maoris than to members of groups of Northwestern European stock.

## B. Method

### 1. *Subjects*

The *Ss* were 138 white New Zealand-born, first year Psychology students attending the Victoria University of Wellington in 1960. A cross check of protocols with class records resulted in the elimination of 58 *Ss* who either had already served as judges in the construction of the Social Distance and Physical Similarity Scales (discussed below), or else were ineligible on the grounds of race or nationality. The remaining 80 *Ss* made up the sample upon which the results of this study are based.

### 2. *Instruments*

The instruments employed were a seven-item Social Distance scale and a Physical Similarity scale.

*a. The Social Distance Scale.* Thirteen items, twelve of which had been used in previous studies (3, 11), were rated on a nine-point scale by 26 first year Psychology students. Seven of these items were selected for minimal ambiguity and equal interval properties to make up a Social Distance scale. The seven items and their scale are shown in Table 1.

TABLE 1
Items and Their Equal Interval Values on a Nine Point Scale

| | |
|---|---|
| 1. I would marry this person. | 1.00 |
| 2. I would accept this person as a close kin by marriage. | 1.85 |
| 3. I would accept this person as a roommate. | 2.73 |
| 4. I would accept this person as a boarder. | 3.08 |
| 5. I would accept this person as visitor to my house. | 3.50 |
| 6. I would accept this person as a next-door neighbor. | 4.94 |
| 7. I would accept this person as a visitor to my country. | 6.60 |

*b. The Physical Similarity Scale.* Sixteen national groups were rated on a seven-point scale in terms of the extent to which members of the respective groups were judged to be physically similar to white New Zealanders. The groups rated were Canadians, Irish, Dutch, English, Chinese, Greeks, Hindus, Australians, Maoris, Germans, Hungarians, Samoans, Italians, Scots, Japanese and Russians. The judges were 18 first year Psychology students who had not served as judges for the Social Distance scale. To facilitate presentation, the median values on the Physical Similarity scale assigned by

the judges to the 16 national groups are included in Table 2 under Results. The 44 students who acted as judges for the two scales were chosen at random from the first year class rolls.

### 3. *Administration*

The Social Distance scale was administered to 138 *Ss* divided into four groups during a laboratory period. Protocols were anonymous to the extent that *Ss* were asked at the completion of the test to add their initials only.

## C. Results and Discussion

The complete social distance data, based on the responses of 80 *Ss* towards the 16 national groups, are shown in Table 2. Thus 75 out of 80 *Ss* were prepared to marry an Australian, an additional two would accept him as an in-law, etc..

### 1. *General*

The general trend of the *Ss*' social distance attitudes towards the 16 national groups was as follows. The least social distance was extended to the Northwestern European groups, among whom British and Protestant were preferred to non-British or Catholic stock.[1] Maoris followed next, being considered less distant than Mid-European and South European groups, although this trend was reversed when marriage preferences alone are considered. These were followed by the Samoan group which, in a New Zealander's eyes, is probably considered representative of Polynesian (other than Maori) groups as a whole. The most social distance was extended to the Asian groups.

The pattern of the social distance scores, ranging from Scots accepted as social equals to Hindus at the other extreme, is similar to that reported in American studies. Pettigrew's observation, that "racial, religious, and ethnic prejudices operate in similar ways in various western societies" (7, p. 253), is supported in this instance.

Particular attention was given to the data in Table 2 relating to marriage preferences. Tests of significance appropriate to these data are described by Siegel (8). The trend through the 16 groups, from the most preferred (Australians) to the least preferred (Japanese, Hindus), was found to be

[1] It was to be expected that, in a predominantly Protestant and British community, more social distance would be extended to: (*a*) Irish (usually Catholic) than to other white British groups; and (*b*) Non-British than to British groups. These results lend support to the findings of Triandis and Triandis (11), that religion and national background can act as determinants of social distance among white *Ss*, although both are of secondary importance to race.

significant when tested by Cochran's Q Test ($Q = 478.81$, $df = 15$, $p < .001$). These results were then analyzed by the McNemar Test for the Significance of Changes, comparing the groups by pairs. It was found that each of the 16 groups could be allotted to one of five categories. Inter-category differences were significant, but differences between the groups within any one category were not. The five categories, and the differences between them, are shown in Table 3.

TABLE 3
MARRIAGE PREFERENCES FOR THE GROUPS ALLOTTED TO FIVE CATEGORIES

| | Categories showing order of preference | Minimal difference between categories | | |
|---|---|---|---|---|
| | | Groups | $\chi^2$ | p* |
| Australians, Canadians, Scots, English | 1 | English > Irish | 7.78 | < .01 |
| Irish, Germans, Dutch | 2 | Dutch > Hungarians | 2.72 | < .05 |
| Hungarians, Russians, Italians, Maoris | 3 | Maoris > Samoans | 7.69 | < .01 |
| Samoans | 4 | Samoans > Chinese | 4.27 | < .05 |
| Chinese, Hindus, Japanese | 5 | — | — | — |

* Probability values are based on one-tailed predictions with one degree of freedom.

It can be seen from Table 3 that the groups in Category 1 (most preferred) are Australians, Canadians, Scots and English. The differences between the preferences for these groups were not significant, but all were preferred significantly more than the groups in Category 2. The minimal difference, significant at the .01 level, between Categories 1 and 2 was that between English (lowest-ranked in Category 1) and Irish (highest-ranked in Category 2). Similarly, the groups in Category 2 were significantly preferred to those in Category 3, with the minimal difference, significant at the .05 level, being that between Dutch and Hungarians, and so on. With the exception of Greeks,[2] preferences for each of the 16 groups have been presented in this way.

### 2. *Test of Hypothesis 1*

It was found that the social distance mean values for the 16 groups correlated significantly (Rho = .919, $p < .01$) with judged physical similarity.

[2] It was not clear whether Greeks should be ranked in either Category 3 or 4 of Table 3. Hungarians (category 3) were significantly preferred to Greeks ($\chi^2 = 5.88$, $p < .01$), but there were no significant differences between the preferences for Greeks and those for Russians, Italians, Maoris (Category 3), and Samoans (Category 4).

Further, the results in Table 3 indicate that there were significant differences between the groups in terms of the *Ss*' marriage preferences. This trend also correlated significantly (Rho = .974, $p < .01$) with judged physical similarity. Hypothesis 1 therefore, was confirmed by the results. It was concluded that race was the most important determinant of social distance among white New Zealand *Ss*, supporting the conclusion drawn by Triandis and Triandis (11).

### 3. *Test of Hypothesis 2*

It can be seen from the results in Table 2 that, in terms of social distance mean values, Maoris are ranked eighth, following after the groups of North-western European stock. Further, in terms of marriage preferences, the results in Table 3 show that Maoris were preferred significantly less than the groups mentioned above. Hypothesis 2, therefore, was also confirmed by the data.

An interesting aspect of these results was that the rank of the Maori group drops from eighth to eleventh when marriage preference in particular, rather than social distance in general, is considered. This result indicates that, while a Maori would be more welcome than a Russian, for example, as a visitor to an *S*'s house, the Russian would be preferred in marriage. This difference in ranks assigned to the Maori group is the principal reason for the discrepancy between the correlations of judged physical similarity with marriage preferences (.974) and with social distance mean values (.919).

### 4. *Unidimensionality of the Social Distance Scale*

The social distance attitudes of the *Ss* towards each of the 16 groups were checked for unidimensionality, according to the procedure described by Edwards (5, pp. 184-188, 191-197). Sixteen coefficients of reproducibility were obtained, ranging from .952 to .993, with a mean of .973. Although some of these coefficients were artificially high, due to the number of items having extreme modal frequencies, others did provide a reasonable test of scalability. An analysis of the item marginals for Greeks, for example, showed that more than half were between 58 per cent and 74 per cent. Reproducibility computed from partial scores was .766, while that for whole scores was .962. While the scalability of the data, then, appeared to be high, one qualifying feature in the results was noted. An inspection of the pattern of errors revealed a non-scale type. It was found that a substantial number of the *Ss* who checked Item 5 in Table 1 did not also check Item 6. Post-test questioning of some of these *Ss* revealed that "visitor to my

house" could be interpreted as "visitor on one occasion to my house," and that this implied less social acceptance than "next-door neighbour." The scale order of the items in Table 1, however, could be retained in future research if Item 5 were rephrased "I would accept this person as a *frequent* visitor to my house."

## D. Conclusions

An investigation of the social distance attitudes and marriage preferences of 80 white New Zealand-born students revealed the following:

1. Social distance scores and marriage preferences correlated significantly with judged physical similarity. It was concluded that race was the most important determinant of social distance among the *S*s tested.

2. More social distance was accorded to Maoris, a colored minority group in New Zealand, than to members of Northwestern European stock. This distance was increased when marriage preferences in particular were considered. The importance of race as a determinant of social distance is most evident in terms of marriage preferences.

## E. Summary

Eighty white, New Zealand-born students were tested for their social distance attitudes towards Maoris and 15 other national groups. It was found that their scores on a social distance scale correlated significantly with the extent to which the groups were judged to be physically similar to white New Zealanders. More social distance was accorded to Maoris than to members of groups of Northwestern European stock. These trends were attributed to the importance of race as a determinant of social distance.

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# A CROSS-CULTURAL STUDY OF FILM PREFERENCES ON AN INDIAN STUDENT POPULATION*[1]

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## A. Introduction

Studies on film preferences of children and adolescents have been undertaken by using indirect techniques. For instance, Wall and Smith (3), at the University of Birmingham, took adolescent students between the ages of 13.0 and 16.1 and reported two estimates of their film choice obtained indirectly. During a certain fortnight in 1947, they exhibited the first and second grade films to the students. In the week that followed, a representative sample of over 2000 students were asked to answer certain questions regarding the films which they had seen last fortnight. The assumption was that the film which is mentioned more frequently in the answer papers is the most preferred. However, it was found that their favorite and preferred films during the fortnight's showing was other than the one stated in the answer sheet. The second estimate was based on the essays written, on "The Best Film I Have Ever Seen," by 979 students. These two estimates differed materially. The films referred to in the essays included films which were seen as far back as two years. In addition to these, the films reported were so large in number and ranged over such a wide field (nearly 251 films of which over 50 are mentioned by more than three adults) that it became difficult to classify them. It also became difficult to assess what it was in a particular film that made an appeal. Furthermore, no attempt was made to find out whether film preference was a function of the students' age, sex, and educational background.

The present authors therefore, propose to take into account the age, sex and educational background of students while investigating this problem through direct techniques. In fact, there is no reason why the direct methods should not be preferred to indirect methods in such investigations, specially when the data is to be collected anonymously. Emphasizing this viewpoint, Allport (1), has remarked, "If we want to know how people feel; what

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they experience; and what they remember, what their emotions and motives are like; and the reasons for acting as they do—why not ask them? This is the simple logic of the introspectionist's position that commends itself to many in spite of the scorching displeasure of behaviorists and objectivists."

## B. Problem

Research in this area seems to be somewhat limited in number. In India, no significant attempt has been made to understand the film preference of students even though recent years have recognized the need for and importance of audiovisual education. No less important are the factors which determine their film preferences.

Most of the subjects of this study had been previously included in an earlier study of attitudes to films (2). In that investigation, the authors obtained some significant differences in attitudes of students depending on *S*s' age, sex, and education. Since one's preference is more or less a reflection of his belief system, attitudes, etc., the authors believe that the students coming from different age, sex and educational level groups will differ in their film preferences.

Thus, the main objective of the study is to make a comparative analysis of the film preferences of students of various groups.

## C. Questionnaire

A questionnaire was prepared to measure film preferences. It was divided into three parts. Part I dealt in eliciting information about the *S*'s age, education, and sex. Part II contained the titles of 10 different categories of films, viz.; Social, Family picture, etc. The questionnaire is to be found in the Appendix. The *S*s were asked to arrange these types of films in order of their preference. It was made clear that the most preferred film will get the rank of one, and the least preferred one will get the rank of 10. In Part III, the names of 15 determinants of film preference were given. The *S*s were instructed to underline the determinant or determinants which they usually consider while showing their preferences for a particular film.

They were further instructed not to consult others while filling up the questionnaire and return the same without writing their names therein. This was done to minimize the conscious distortion of responses by the *S*s.

Classification of films into 10 different categories and selection of 15 features of film preference were done following Wall and Smith (3) and in a group discussion that included the teaching staffs in psychology.

## D. Results and Discussion

### 1. *Film Preference*

Mean ranks, and *SD*s for the 10 types of films were obtained from the ranks given by the students. In order to make a comparative analysis of the film preference, the mean rank and *SD* for each picture were also calculated separately for males and females, for students reading in higher secondary schools and colleges, and for those belonging to different age groups. To test the significance of difference, *CR*s were calculated. The results are summarized in Tables 1, 2, and 3.

Table I shows that students in general mostly prefer films depicting scenes from social life. Family pictures occupy the second place in their order of preference, Scientific pictures next and so on. However, it is interesting to note here that films dealing with Romantic and Love themes are depreciated by our Indian students. The Indian students gave the lowest rank to this type of picture. This seems to be a contradiction to the popular assumption, belief and practice, that students mostly see and prefer films of this sort. We can say therefore, that even though they see at times these films (Romantic and Love), and the people think about them likewise, yet they do not prefer these films when other educative films like Social and Family pictures, and pictures with Scientific themes are available. This is evident from an examination of Table 1.

Males and females differed in their film preferences. From Table 1, it is found that males have significantly more inclinations towards the Social films than the females, ($CR = 2.50$. $p < .05$). On the other hand, films dealing with biography, history, family life and mythology are appreciated more by the females. As expected, females showed significantly low preference to War pictures in comparison to the males. But surprisingly, females did not like Romantic and Love pictures as much as the males did.

The film preference of the males and females were further analysed at their respective educational level. The analysis revealed that the higher secondary female and male students showed similar preference as that of male and female students in general. Boys and girls reading in the college indicate a fairly close similarity in their choice of films mainly for Social and Family pictures. This is possibly because of their similar interest in social and family life which they are going to have very shortly. However, the substantial difference in their preference for Scientific and Detective pictures does suggest the most extraverted interest of the boys. It seems that increase in educational level is responsible for bridging the gap between

TABLE 1

FILM PREFERENCES OF MALE AND FEMALE STUDENTS OF DIFFERENT EDUCATIONAL LEVELS

| Types of films | General mean rank | Sex | Male-191, Female-182 | | | Higher secondary | | | College | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | M.R | SD | CR | M.R | SD | CR | M.R | SD | CR |
| Social | 3.2 | M | 2.9 | 2.27 | 2.50 | 3.2 | 2.52 | 2.39 | 2.6 | 1.51 | — |
| | | F | 3.5 | 2.43 | | 4.0 | 2.42 | | 2.6 | 2.19 | |
| Family picture | 4.4 | M | 4.2 | 2.44 | 1.15 | 4.6 | 2.58 | 1.14 | 3.8 | 2.20 | — |
| | | F | 4.5 | 2.54 | | 5.0 | 2.65 | | 3.6 | 2.02 | |
| Scientific | 4.6 | M | 4.4 | 2.71 | 1.43 | 4.0 | 2.67 | 1.08 | 4.7 | 2.70 | 2.22 |
| | | F | 4.8 | 2.86 | | 4.4 | 2.78 | | 5.7 | 2.78 | |
| Historical | 4.8 | M | 5.1 | 2.10 | 2.76 | 4.9 | 2.01 | 2.14 | 5.3 | 2.11 | 1.21 |
| | | F | 4.5 | 2.12 | | 4.3 | 2.13 | | 4.9 | 2.01 | |
| Biography | 4.9 | M | 5.5 | 2.46 | 5.20 | 5.5 | 2.59 | 4.39 | 5.5 | 2.62 | 2.38 |
| | | F | 4.2 | 2.48 | | 4.0 | 2.42 | | 4.5 | 2.57 | |
| Mythology | 5.5 | M | 5.8 | 2.55 | 2.80 | 5.8 | 2.33 | 2.77 | 5.9 | 2.78 | 1.22 |
| | | F | 5.1 | 2.44 | | 4.9 | 2.47 | | 5.4 | 2.33 | |
| War | 6.2 | M | 5.9 | 2.52 | 2.08 | 5.6 | 2.57 | 1.99 | 6.2 | 2.37 | 1.39 |
| | | F | 6.4 | 2.17 | | 6.3 | 2.60 | | 6.7 | 2.07 | |
| Detective | 6.6 | M | 6.8 | 2.71 | 1.45 | 6.5 | 2.92 | — | 7.2 | 2.41 | 2.88 |
| | | F | 6.4 | 2.62 | | 6.6 | 2.58 | | 6.0 | 2.64 | |
| Propaganda | 7.1 | M | 6.9 | 2.51 | — | 7.0 | 2.14 | — | 7.1 | 2.56 | 1.36 |
| | | F | 7.1 | 2.78 | | 6.9 | 2.50 | | 7.6 | 2.02 | |
| Romantic & Love | 7.9 | M | 7.3 | 3.02 | 3.70 | 7.9 | 2.79 | 2.22 | 6.7 | 3.15 | 2.40 |
| | | F | 8.4 | 2.71 | | 8.7 | 2.50 | | 7.9 | 2.99 | |

'—' CR $< 1.00$; CR at $.05 = 1.96$, at $.01 = 2.58$; Higher Secondary—Male N = 100, Female N = 119; College—Male N = 91, Female N = 63

TABLE 2
FILM PREFERENCES OF STUDENTS OF DIFFERENT EDUCATIONAL LEVELS

| Types of films | Educational level | Mean rank | SD | CR | CR between male *Ss* | CR between female *Ss* |
|---|---|---|---|---|---|---|
| Social | H.S | 3.6 | 2.49 | 4.24 | 2.05 | 3.95 |
| | C. | 2.6 | 2.03 | | | |
| Family picture | H.S. | 4.8 | 2.63 | 4.45 | 2.32 | 4.04 |
| | C | 3.7 | 2.13 | | | |
| Scientific | H.S. | 4.2 | 2.74 | 3.12 | 1.80 | 3.00 |
| | C. | 5.1 | 2.77 | | | |
| Historical | H.S. | 4.5 | 2.10 | 2.71 | 1.34 | 1.89 |
| | C. | 5.1 | 2.11 | | | |
| Biography | H.S. | 4.7 | 2.60 | 1.46 | — | 1.28 |
| | C. | 5.1 | 2.61 | | | |
| Mythology | H.S. | 5.3 | 2.45 | 1.56 | — | 1.36 |
| | C | 5.7 | 2.48 | | | |
| War | H.S. | 6.0 | 2.43 | 1.62 | 1.68 | 1.14 |
| | C. | 6.4 | 2.30 | | | |
| Detective | H.S. | 5.6 | 3.11 | 3.73 | 1.81 | 1.47 |
| | C. | 6.7 | 2.57 | | | |
| Propaganda | H.S. | 6.8 | 2.41 | 1.99 | — | 2.09 |
| | C. | 7.3 | 2.37 | | | |
| Romantic & Love | H.S. | 8.3 | 2.67 | 3.55 | 2.77 | 1.81 |
| | C. | 7.2 | 3.14 | | | |

H.S.—Higher Secondary $N = 219$
C—College $N = 154$
'—' CR $< 1.00$
CR at $.05 = 1.96$
CR at $.01 = 2.58$

masculinity and femininity in regard to their preference for films of human relationships. Thus, it would be relevant to treat the effect of educational level on the film preferences. Table 2 presents the summary of the results obtained.

An analysis of Table 2 reveals certain trends which seem characteristic of the higher secondary group. The most striking of these is the relatively great attachment of the students towards films of historical, scientific,

detective, and propaganda nature. On the other hand, they showed lower preference for Social, Family, Romantic and Love pictures than their seniors. In view of these facts, it seems reasonable to infer that students at the lower educational level mostly prefer films which are more information giving, and instructive in order to satisfy their intellectual curiosity and this interest decreases as they go higher up in their educational attainment. In fact, in school years, boys and girls in general are ignorant of many events and problems of life.

Further analysis was made to find out the effect of educational level on film preference isolating the factor of sex. The mean ranks of each film given by the male students of higher secondary classes were compared with that of the male students reading at the college level. Similar comparison was also made for the females. An observation of Table 2 delineates, that out of the 10 types of films, the male students of these two educational levels showed significantly different preference to Social, Family, and Romantic and Love pictures. In all these cases, the male college students showed more appreciation than their male juniors. The higher secondary and college female students on the other hand, showed difference in preference for Social, Family, Scientific and Detective pictures. Interest in Scientific pictures declined in case of the college females. No doubt it is true that age coexists with educational level. The students who are low in educational level are usually low in chronological age. But it is remarkable that with regard to Romantic and Love films the pattern of preference for girls irrespective of their educational level is the same. Other details can be had from an observation of the mean ranks for the male and female students presented separately with their respective educational level in Table 1.

The students are therefore, divided into two groups. Those who are below 18 years formed one group and those who are 18 years and above formed another group and their film preferences were analysed.

A detailed observation of Table 3 indicates the importance of age as a factor of determining the film preferences. It was found that these two age groups differed from each other significantly in eight out of the 10 types of films. The students belonging to the higher age group showed remarkably greater preference towards Social, Family, and Romantic and Love pictures. This is quite consistent with the film preference of the college students. The younger age groups were inclined more toward the rest of the types of films. This, however, suggests that like sex and education, age of the students is an important factor determining their film preference. But often educational level and age overlap in influencing the individual's behaviour.

TABLE 3
FILM PREFERENCES OF STUDENTS OF DIFFERENT AGE GROUPS

| Types of films | Age groups | Mean ranks | SD | CR |
|---|---|---|---|---|
| Social | a— | 3.8 | 2.76 | 4.80 |
| | b— | 2.6 | 2.04 | |
| Family picture | a— | 5.0 | 2.51 | 5.26 |
| | b— | 3.7 | 2.31 | |
| Scientific | a— | 4.1 | 2.69 | 3.18 |
| | b— | 5.0 | 2.82 | |
| Historical | a— | 6.3 | 2.68 | 2.22 |
| | b— | 6.9 | 2.62 | |
| Biography | a— | 5.0 | 2.54 | 3.54 |
| | b— | 5.9 | 2.41 | |
| Mythology | a— | 4.4 | 2.11 | 3.77 |
| | b— | 5.2 | 2.05 | |
| War | a— | 4.5 | 2.55 | 2.68 |
| | b— | 5.2 | 2.64 | |
| Detective | a— | 6.0 | 2.44 | 1.62 |
| | b— | 6.4 | 2.30 | |
| Propaganda | a— | 6.9 | 2.39 | 1.18 |
| | b— | 7.2 | 2.57 | |
| Romantic & Love | a— | 8.8 | 2.21 | 8.10 |
| | b— | 6.8 | 3.21 | |

a—Below 18 years, N = 191; b—18 years and above, N = 182; CR at .05 = 196; at .01 = 2.58; at .001 = 3.291

### 2. *Determinants of Film Preference*

The next purpose of this investigation was to find out the factors which determine the film preference of students. There were 15 such factors, and the students were asked whether they prefer a film more because of natural scenery therein, or for the beautiful film stars who play parts in it or because of any other factor or factors. The students have given their opinions by underlying the features given in the questionaire which they valued most in the film. The number of students mentioning each of the 15 factors were found out and were converted into percentages. In this way the percentage of students considering a particular feature during their film preference was

found out separately for males and females, for higher secondary and college students and so on. These percentages provided the basic scores for finding out the *CR*s. The results thus obtained are presented in Table 4 and Table 5.

We may now draw our attention to what appears to be a marked sex difference coherent with the trend of Table 1. Love for natural scenery and humor, followed by the appeal of music are what attract the male students. Among girls, the appeal for natural scenery becomes paramount with music, pathos, and humor following. However, a significant sex difference is found in regard to excitement, direction, natural scenery, pathos and suspense. Excitement which includes speed of action and suspense are considered more as a factor underlying film preference by the male students than the females of the higher secondary classes. The females on the other hand, appreciated pathetic elements in the film more than the male students. This reflects the kindhearted and sympathetic nature of women, which they exhibit in real life situations. It is perhaps reassuring also to notice that dialogue, excitement, suspense, even appeal for stars, achieve relatively few mentions by both male and female students.

Differences which might be due to the educational levels are found nearly in half of the determinants. It is clear from Table 5, that the higher secondary students emphasized certain factors which are significantly different from that of their seniors. These factors are: Dialogue, Direction, Photography, Plot, Realism, Acting, and Suspense. It is important however, that all these factors, are liked more by the college students than their juniors. From this it seems legitimate to infer a general trend that in the Higher educational group, there is a significantly greater tendency to emphasize serious qualities like those already mentioned, while preferring a film. On the other hand, students of both the educational grades almost agreed with each other to the rest of the features of the films. Further analysis revealed that the higher educated male students showed significantly greater consideration to the three factors: Suspense, Realism, and Dialogue. All other details are given in Table 5.

Age of the students might have influenced the determinants of their film preference. With this intention, the effect of age on the determinants of preference was explored. It will be seen from Table 5, that the higher age group (18 years and above) showed a decreasing interest for humor, photography, and natural scenery ( $p > .05$ statistically not significant) compared to that of the lower age group. However, they differed significantly in their emphasis on suspense, plot, pathos, and direction. Like the females,

TABLE 4

DETERMINANTS OF FILM PREFERENCE SHOWN BY MALE AND FEMALE STUDENTS OF DIFFERENT EDUCATIONAL LEVELS IN PERCENTAGES

| | | | | | Higher secondary | | | College | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Determinants | General | Male | Female | CR | Male | Female | CR | Male | Female | CR |
| Humor | 56.8 | 57.6 | 56.0 | — | 57.0 | 59.7 | — | 58.2 | 48.2 | 1.22 |
| Dialogue | 17.4 | 18.3 | 16.5 | — | 12.0 | 14.3 | — | 25.3 | 20.6 | — |
| Star appeal | 23.9 | 24.1 | 23.6 | — | 24.0 | 21.0 | — | 24.2 | 28.6 | — |
| Excitement | 17.2 | 20.9 | 13.2 | 2.0* | 22.0 | 11.8 | 2.01* | 19.8 | 15.9 | — |
| Direction | 26.8 | 34.0 | 19.2 | 3.49** | 28.0 | 17.7 | 1.81 | 40.6 | 22.2 | 2.51* |
| Dance | 38.6 | 38.7 | 38.5 | — | 34.0 | 38.7 | — | 43.9 | 38.1 | — |
| Photography | 31.6 | 31.4 | 31.9 | — | 2.70 | 27.7 | — | 36.3 | 39.7 | — |
| Morality | 47.2 | 49.7 | 44.5 | 1.01 | 47.0 | 47.9 | — | 52.7 | 38.1 | 1.81 |
| Natural scenery | 70.8 | 65.4 | 76.4 | 2.36* | 68.0 | 73.1 | — | 62.6 | 82.5 | 2.56** |
| Pathos | 55.5 | 49.7 | 61.5 | 2.31* | 51.0 | 62.2 | 1.68 | 48.3 | 60.3 | 1.48 |
| Music | 60.9 | 57.6 | 64.3 | 1.33 | 58.0 | 62.2 | — | 57.1 | 68.2 | 1.42 |
| Plot | 48.8 | 50.8 | 46.7 | — | 47.0 | 41.2 | — | 54.9 | 57.1 | — |
| Realism | 46.5 | 45.0 | 48.3 | — | 38.0 | 45.4 | 1.11 | 52.7 | 54.0 | — |
| Acting | 47.2 | 44.5 | 50.0 | 1.06 | 38.0 | 43.7 | — | 51.6 | 61.9 | 1.27 |
| Suspense | 26.5 | 30.9 | 22.0 | 1.96* | 22.0 | 13.4 | 1.66 | 40.6 | 38.1 | — |

'—' CR $<$ 1.00
* $p < .05$
** $p < .01$

TABLE 5

DETERMINANTS OF FILM PREFERENCE SHOWN BY STUDENTS OF DIFFERENT EDUCATIONAL LEVELS AND CHRONOLOGICAL AGE IN PERCENTAGES

| Determinants | Educational levels | | | CR between male *S*s of H.S. & C. | CR between female *S*s of H.S. & C. | Chronological age | | |
|---|---|---|---|---|---|---|---|---|
| | Higher secondary | College | CR | | | Below 18 years | 18 & above | CR |
| Humor | 58.5 | 54.5 | — | — | 1.49 | 61.2 | 52.2 | 1.76 |
| Dialogue | 13.2 | 23.4 | 2.48* | 2.38* | 1.05 | 15.2 | 19.8 | 1.68 |
| Star appeal | 22.4 | 26.0 | — | — | 1.11 | 21.5 | 26.5 | 1.11 |
| Excitement | 16.4 | 18.2 | — | — | — | 16.2 | 18.1 | — |
| Direction | 22.4 | 33.1 | 2.27* | 1.84 | — | 21.9 | 31.9 | 2.19* |
| Dance | 36.5 | 41.6 | — | 1.41 | — | 38.7 | 38.5 | — |
| Photography | 27.4 | 37.7 | 2.09* | 1.38 | 1.61 | 34.0 | 29.1 | 1.02 |
| Morality | 47.4 | 46.7 | — | — | 1.28 | 47.1 | 47.2 | — |
| Natural scenery | 70.8 | 70.8 | — | — | 1.49 | 74.9 | 66.5 | 1.79 |
| Pathos | 57.1 | 53.2 | — | — | — | 63.3 | 42.2 | 4.17*** |
| Music | 60.3 | 61.7 | — | — | — | 60.7 | 60.9 | — |
| Plot | 43.8 | 55.8 | 2.29* | 1.09 | 2.07* | 44.5 | 53.3 | 4.18*** |
| Realism | 42.0 | 53.2 | 2.15* | 2.06* | 1.11 | 45.5 | 47.8 | — |
| Acting | 41.1 | 55.8 | 2.80** | 1.90 | 2.38* | 44.5 | 50.0 | 1.07 |
| Suspense | 17.4 | 39.6 | 4.72*** | 2.81** | 3.59*** | 18.3 | 35.2 | 3.75*** |

'—' CR < 1.00
* $p < .05$
** $p < .01$
*** $p < .001$

the students belonging to the lower age groups had a greater appreciation of the pathetic element in films than their elders ($p < .01$).

## E. Summary and Conclusions

The main objective of this investigation was to make a comparative analysis of students' (*a*) film preferences; and (*b*) determinants of film preference, on the basis of their sex, age, and educational background. The problem was investigated through a direct questionnaire. The results obtained are: (*a*) Students in general preferred most Social films. Next in order of preference is the Family pictures, Scientific next and so on. Romantic and Love pictures are strikingly less popular among the students. (*b*) Males and females differed in their film preference. Irrespective of educational attainment girl students' preference for films dealing with human relationships appears to be confirmed. Films which are information giving, instructive are preferred more by the higher secondary students. The college students' preference centred around the films of human relationships. Students of lower age groups showed significantly distinct film preference than the higher age group. (*c*) Both boys and girls emphasized: natural scenery, music, humor, and pathos as the determinants of their film preference. The girls liked more the natural scenery and pathetic elements in films than the boys.

Significant differences were found out between the higher secondary and college students, in regard to the determinants of their film preference. In all cases (where the difference was significant) the college students showed more inclination towards them than their juniors.

A few trends of difference with age seem established but the effect of age on the determinants of films preference was not much.

## APPENDIX (Questionnaire)

*Part I, Personal data**

Please fill up the following particulars about yourself.
Age—
Sex—
Class in which you are reading—
Numbers of times you visit films in a month—

*Part II, Film Preference*

Below you will find a list of 10 different types of films. Write "1" against the type of film which you like most. "2" against the next preferred and so on. The film which you like least will get the rank of 10. Please arrange these films in order of your preference. Please do not consult others while filling up the form.

| *Types of films* | | *Types of films* | |
|---|---|---|---|
| Social | ( ) | Family picture | ( ) |
| Scientific | ( ) | Romantic & Love | ( ) |
| Detective | ( ) | Mythological | ( ) |
| Historical | ( ) | Biography | ( ) |
| War picture | ( ) | Propaganda | ( ) |

*Part III, Determinants of Film Preference*

Given below is a list of the different features of films. Underline the feature or features which you consider usually while preferring a film. Be frank and sincere in your expressions.

| *Features of film* | *Features of film* |
|---|---|
| Humor | Dance |
| Music | Dialogue |
| Photography | Plot |
| Star appeal | Morality |
| Realism | Excitement |
| Natural Scenery | Acting |
| Direction | Pathos |
| Suspense | |

* Please don't write your name anywhere on this sheet.

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# A STUDY OF STUDENT ATTITUDES TOWARD RELIGION, THE SPIRITUAL AND THE SUPERNATURAL*

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## A. INTRODUCTION

This paper contains a report on an attempt to investigate the religious and allied attitudes of a student community in a southern university in India. It is popularly believed that the Indian student is becoming increasingly materialistic in his outlook and that one of the reasons for this is higher education especially of the scientific type. In this investigation an attempt is made to test this hypothesis and also the effect of social, economic and cultural backgrounds on student religion. Finally it is sought to establish the nature of the relationship between the religious attitude and the attitude of radicalism-conservatism and personality types.

## B. PROCEDURE

### 1. *Tests*

The following three tests were used: Vetter's Attitude Scale, Krishnan's Questionnaire for Cyclothymes-Schizothymes and a Questionnaire on religion. Vetter's test is well known. The adopted version for this investigation consisted of thirty topics under the following general headings—Political, Sex and Family, Individual Freedom, Economics, Religion and Tradition, International, Inter-racial and Social. Under each topic five statements representing Reactionary, Conservative, Neutral, Liberal and Radical points of view were given and the subjects were asked to select one of these. The marks were ranging from 1 to 5 (reactionary to radical). The highest possible was 150 indicating extreme radicalism and the lowest 30 indicating extreme reactionarism. Krishnan's Questionnaire is an adoption of Kretchmer's types of Cyclothymes and Schizothymes, was standardised in the Psychological Laboratory of Mysore University, Mysore (India) and consists of 80 questions referring to Cyclothymes and Schizothymes temperaments. The questionnaire on religion consisted of 30 questions under the following

* Received in the Editorial Office on May 2, 1961, and given special consideration in accordance with our policy for cross-cultural research.

TABLE 1
QUESTIONNAIRE ON RELIGION

1. The Nature of God:
   1. God is the Creator of the Universe.
   2. God can reveal Himself to us through incarnations.
   3. God takes active interest in the affairs of man.
   4. God does not exist.
   5. God has the power to suspend the laws of nature and perform miracles.
2. Future Life:
   6. Death is not the end of our life. Our personality continues in some form in some place or other.
   7. The idea of Heaven has been invented as a compensation for the hardships of this world.
   8. Future life is exactly on the same line as the present.
   9. The joys of Heaven are purer and more spiritual than those of this world.
   10. After death good people go to Heaven and bad people go to Hell.
3. Priests:
   11. Priests have played an important part in the development of religious life by helping people to understand God.
   12. Priests by their example of simple and pious living have made religion a reality to the common man.
   13. We can have direct access to God. Priests are unnecessary.
   14. Priests, in order to keep their power, have exploited religion.
   15. Priests have guarded, enriched and interpreted religious custom and tradition.
4. The Spirit World:
   16. The Devil is real and does exist.
   17. The Devil is merely a symbolization of the one side of our nature.
   18. There is no spirit world beside the material world peopled by good or evil spirits.
   19. Spirits can visit the earth and sometimes hold communications with man.
   20. It is not possible for man to have any contact with the spirit world.
5. Personal Religion:
   21. Prayer is a mean of establishing contact between God and man.
   22. God knows what is good for us, therefore it is unnecessary for us to pray.
   23. God does not answer our prayers.
   24. Regular family prayer should be an important part of our daily routine of domestic life.
   25. We must continue to pray even though there may not be any response to it from God.
6. Formal Religion:
   26. Regular attendance at Temple or Church or Mosque is helpful to religious life.
   27. The Sacred Books are useful in giving us guidance in our daily conduct of life.
   28. Religious festivals and processions serve useful Social and Psychological purposes by drawing people together and providing emotional outlets.
   29. Although mainly superstition, religion contained some grains of wisdom which we are now replacing with more exact scientific knowledge.
   30. We can lead a blameless moral life even without the help of God trusting in our own power.

six general heads—Nature of God, Future Life, Priests, The Spirit World, Personal Religion and Formal Religion. The subject was asked to express his attitude of each statement on a five point scale—strongly agree, agree, neutral, disagree, and strongly disagree (Table 1). The highest possible score in this test was 150 indicating a strongly anti-religious attitude and 30 the lowest score indicating a strongly pro-religious attitude.

### 2. *Subjects*

The subjects, 300 in number, were all students of the Annamalai University. Of these 110 were in the Humanities section (referred to as Arts), 140 in the Science section and 50 women students from both sections. Two hundred and forty-three subjects were within the age range of 20 to 25, 35 below and 22 above this range. The investigation took place during the academic year 1959-60 (June to March). The three tests in booklet form were distributed to 500 students out of which 300 were returned.

## C. Results

The results are given in Tables 2-9. An important finding of this enquiry is the positive correlation between religion as revealed by the questionnaire on religion and radicalism-conservatism as revealed by Vetter's Test (+.483, Table 2) for science students. In view of the prevailing beliefs about the

TABLE 2

Arts, Science and Women Students: Showing the Correlation Between the Total Scores for the Test in Religion, Radicalism-Conservatism and Cyclothymes-Schizothymes

| Traits correlated | 3 Groups N—300 | Arts N—110 | Science N—140 | Women N—50 |
|---|---|---|---|---|
| Religion and Radicalism-Conservatism | + .477 | + .3966 | + .483 | + .419 |
| S.E. | ± .044 | ± .08 | ± .065 | ± .117 |
| Religion and Cyclothymes-Schizothymes | + .0118 | + .277 | + .0665 | — .0236 |
| S.E. | ± .058 | ± .058 | ± .084 | ± .141 |
| Radicalism-Conservatism and Cyclothymes-Schizothymes | + .128 | + .2074 | + .0497 | + .042 |
| S.E. | ± .057 | ± .091 | ± .084 | ± .141 |

irreligion of the scientist, this finding is indeed of some significance. However the popular belief that religion and conservatism go together is confirmed by the correlation of +.477 when the scores of the 300 subjects are taken as a whole (Table 2). There does not seem to be any significant relationship between religion and personality types as measured by tests in this enquiry (Table 2).

TABLE 3
SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS (ARTS AND SCIENCE) AND THE SIGNIFICANCE OF THE DIFFERENCES IN THE TEST ON RELIGION

| Groups | Mean | Difference | SD | Critical ratio |
|---|---|---|---|---|
| Arts | 88.14 | 2.58 | 2.62 | .985 |
| Science | 85.56 | | | |

Tables 4 and 5 show how variations in the income of the families to which students belong affect their religious attitudes. Students coming from groups above the Rs 250 level seem to be more religious than students coming from groups below that level. This again is against the popular view that religion is sustained by poverty as a sort of compensatory factor.

TABLE 4
SHOWING THE MEAN AND STANDARD DEVIATION OF THE FIVE DIFFERENT INCOME GROUPS —A, B, C, D AND E IN THE TEST ON RELIGION

| Group | | N | Mean | SD | S.E.M. |
|---|---|---|---|---|---|
| Below Rs. 100 | —A | 73 | 89.66 | 20 | 2.34 |
| 101 to 250 | —B | 66 | 87.7 | 20 | 2.46 |
| 251 to 500 | —C | 67 | 80.8 | 21.1 | 2.58 |
| 501 to 1000 | —D | 27 | 81.3 | 10.5 | 2.0 |
| Over Rs. 1000 | —E | 8 | 79.5 | 11.12 | 3.9 |

TABLE 5
SHOWING THE CRITICAL RATIOS OF THE DIFFERENCES OF DIFFERENT INCOME GROUPS—A, B, C, D AND E IN THE TEST ON RELIGION

| Group | Mean | Difference | SD | Critical ratio |
|---|---|---|---|---|
| A | 89.66 | | | |
| B | 87.7 | 1.96 | 3.4 | 0.58 |
| A | 89.66 | | | |
| C | 80.8 | 8.86 | 3.48 | 2.55 |
| A | 89.66 | | | |
| D | 81.3 | 8.36 | 3.08 | 2.73 |
| A | 89.66 | | | |
| E | 79.5 | 10.16 | 4.55 | 2.22 |
| B | 87.7 | | | |
| C | 80.8 | 6.9 | 3.54 | 1.96 |
| B | 87.7 | | | |
| D | 81.3 | 6.4 | 3.17 | 2.02 |
| B | 87.7 | | | |
| E | 79.5 | 8.2 | 4.62 | 1.8 |
| C | 80.8 | | | |
| D | 81.3 | 0.5 | 3.26 | 0.15 |
| C | 80.8 | | | |
| E | 79.5 | 1.3 | 4.67 | 0.28 |
| D | 81.3 | | | |
| E | 79.5 | 1.8 | 4.4 | 0.41 |

Have the urban and rural backgrounds any effect on the religious outlook? In the present investigation the city student group seems to be more religious than the town group and the town group more so than the village group (City—over 100,000 population, Town—over 20,000 population, Village—below 20,000). This again is contrary to the popular view that city life is corrupting to the spirit while the close contact with nature operative in villages, works in the opposite direction (Table 6). No significant difference

TABLE 6

SHOWING THE MEAN, STANDARD DEVIATION AND CRITICAL RATIOS OF THE DIFFERENCES OF THE THREE GROUPS—CITY, TOWN AND VILLAGE IN THE TEST ON RELIGION

| Group | N | Mean | SD | Critical ratio | |
|---|---|---|---|---|---|
| City | 73 | 79.3 | 21.7 | City Town | 1.08 |
| Town | 58 | 83.31 | 20.8 | Town Village | 1.35 |
| Village | 169 | 87.5 | 19.4 | City Village | 2.78 |

however emerges when the students are grouped on the basis of industrial and agricultural backgrounds (Table 7).

TABLE 7

SHOWING THE MEAN, STANDARD DEVIATION AND CRITICAL RATIO OF THE DIFFERENCES OF THE TWO GROUPS—INDUSTRIAL AND AGRICULTURAL IN THE TEST ON RELIGION

| Groups | N | Mean | SD | Critical ratio |
|---|---|---|---|---|
| Industrial | 74 | 84.26 | 21.3 | |
| Agricultural | 226 | 84.85 | 20.1 | 0.21 |

According to the scores obtained in the religion questionnaire we find the Arts students rank the six main topics in it as follows: Formal Religion, Nature of God, Personal Religion, Future Life, Priests and The Spirit World. The ranking given by Science and women students (same in both cases) is as follows: Nature of God, Personal Religion, Formal Religion, Future Life, Priests, and the Spirit World. The same ranking order as that of Science and women students was obtained when all the students were taken as a single group. There seems to be some justification for saying that in student religion the "here" plays a more important part than the "hereafter" (Table 8).

The absence of negative quantities and the presence of high positive scores in the coefficients of association among the six topics is also a significant result. There seems to be a high associative tendency between The Nature

TABLE 8

SHOWING THE SCORES FOR EACH TOPIC AND THE RANKING MADE BY THE ARTS, SCIENCE AND WOMEN STUDENTS AND THE WHOLE GROUP IN THE TEST ON RELIGION

| No. Topics | Arts (110) | Rank | Science (140) | Rank | Women (50) | Rank | All (300) | Rank |
|---|---|---|---|---|---|---|---|---|
| 1. Nature of God | 13.25 | 2 | 12.29 | 1 | 9.84 | 1 | 12.23 | 1 |
| 2. Future life | 14.96 | 4 | 14.66 | 4 | 13.44 | 4 | 14.57 | 4 |
| 3. Priests | 15.95 | 5 | 15.55 | 5 | 14.34 | 5 | 15.5 | 5 |
| 4. Spirit world | 17.21 | 6 | 16.78 | 6 | 16.22 | 6 | 16.84 | 6 |
| 5. Personal religion | 13.75 | 3 | 12.87 | 2 | 9.86 | 2 | 12.69 | 2 |
| 6. Formal religion | 13.21 | 1 | 13.1 | 3 | 11.44 | 3 | 12.86 | 3 |

of God and Personal Religion. This is indicative of the realization that prayer, communal worship, a study of sacred books and religious festivals are important adjutants to a faith in God (Table 9).

TABLE 9

THREE GROUPS (300 STUDENTS) SHOWING THE COEFFICIENT OF ASSOCIATION IN THE TEST ON RELIGION FOR SIX TOPICS (DECIMAL POINTS OMITTED)

| Topics | | 1 | 2 | 3 | 4 | 5 | 6 | Averages |
|---|---|---|---|---|---|---|---|---|
| Nature of God | 1 | — | 86 | 87 | 84 | 95 | 93 | 89.0 |
| Future life | 2 | — | — | 80 | 88 | 88 | 84 | 85.2 |
| Priests | 3 | — | — | — | 77 | 88 | 88 | 84.0 |
| Spirit world | 4 | — | — | — | — | 89 | 79 | 83.4 |
| Personal religion | 5 | — | — | — | — | — | 93 | 90.5 |
| Formal religion | 6 | — | — | — | — | — | — | 87.4 |

## D. SUMMARY OF RESULTS

The major conclusions from the present enquiry may be summarized as follows: There seems to be a relation between the liberal-conservative attitude and the religious attitude. Science students seem to be more religious than Arts students. Economic status seems to have some effect on the religious attitude of students. Rural and urban backgrounds have effect on the religious attitude of students. In students, religion, prayer, sacred books, communal worship and festivals play a more important part than priests, the future life and the spirit world.

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# SOME SOCIO-CULTURAL AND PSYCHOLOGICAL DETERMINANTS OF ADVERTISING IN INDIA: A COMPARATIVE STUDY* [1]

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## A. INTRODUCTION

The amazing development in psychological techniques of advertising in America is particularly striking to a foreigner on first coming to this country. The striking differences between today's advertising in India and in America motivated the authors to undertake a comparative study of advertisements in the two countries.

The present study was designed: (*a*) To investigate similarity and dissimilarity between Indian and American advertisements and to test the statistical significance of the differences obtained; and (*b*) To investigate the relationships between these differences in advertising and certain socio-economic and cultural factors.

## B. MATERIALS AND METHODS

In this study the authors selected one representative magazine each from India and America. The "Illustrated Weekly of India" published by the Times Press of India, Bombay (India), was selected. It has the largest and widest circulation in India and neighboring countries of Pakistan, Burma and Ceylon. It is highly popular and read by Indians and has good circulation in other countries also where Indians are living. To make the study comparable, the "Life" magazine published weekly by Time Inc., 540 North Michigan Avenue, Chicago, Illinois (U.S.A.) was selected.

### 1. *Sample*

In planning this study, the aim was to make it as broad and comprehensive as possible. The five factors which the authors judged most likely to affect the results were carefully studied. Advertising samples were drawn on the

* Received in the Editorial Office on May 8, 1961, and given special consideration in accordance with our policy for cross-cultural research.

[1] After certain changes and improvements in, condensed from a M.A. thesis of the senior author at Ohio State University under the direction of Dr. Robert J. Wherry.

basis of random sampling. Thirty-six copies, from a total of 54 issues of *Illustrated Weekly of India,* published in the year ending December 1959 were selected. To make the number of advertisements studied comparable, 34 copies were selected from all the issues of *Life* for the same period. All the advertisements appearing in those issues were studied. The number of advertisements studied is given in Table 1.

TABLE 1
CHARACTERISTICS OF ADVERTISING SAMPLES

| Name of country | Magazine | Total number of copies studied | Total number of ads studied |
|---|---|---|---|
| America | *Life* | 34 | 2587 |
| India | *Illustrated Weekly of India* | 36 | 2592 |

### 2. *Collection and Tabulation of Data*

Success in this type of study hinges largely upon the manner in which the data are collected. Each advertisement presents an individual problem in the sense that it must be carefully dissected into its component elements and again broken into its sub-elements, each of which must be accurately catalogued and recorded. So, in this analysis all the precautions were taken to provide a convenient method of assembling all of the pertinent information, concerning the different variables such as size, picture, color, etc., as shown in Table 2, Part A through E.

### 3. *Statistical Method*

The statistical analysis consisted of:

*Chi-square*: to test the probability and significance of differences among Indian and American advertisements Chi-square was applied.

*Coefficient of contingency* or *Phi*: To evaluate the predictive relationship of each of the elements either a coefficient of contingency (when there were more than two categories) or the Phi coefficient (when there were only two categories) was computed.

## C. RESULTS

Each different variable in contrasting American and Indian advertisements was treated statistically. The findings are summarized in Table 2, Parts A through E.

TABLE 2A

SIZE IN PAGES

| Size in pages | *Life* | *Illustrated Weekly of India* |
|---|---|---|
| 4 | 2 | — |
| 3½ | 1 | — |
| 3 | 11 | — |
| 2½ | 4 | — |
| 2 | 231 | — |
| 1½ | 5 | — |
| 1 | 1453 | 105 |
| 3/4 | — | 65 |
| 2/3 | — | 92 |
| 1/2 | 457 | 98 |
| 1/3 | — | 75 |
| 1/4 | 184 | 257 |
| 1/5 | — | 333 |
| 1/8 | 87 | 249 |
| 1/10 | — | 450 |
| 1/20 | 152 | 868 |
| Total | 2587 | 2592 |

$\chi^2 = 3578.68$
P = .001
C = .639

TABLE 2B

PICTURE VS. STORY

| Name of magazine | More than 50% in pictures | 50% picture & 50% story | More than 50% story | Total |
|---|---|---|---|---|
| *Life* | 1726 | 482 | 379 | 2587 |
| *Illustrated Weekly of India* | 341 | 423 | 1828 | 2592 |

$\chi^2 = 2884.70$
P = .001
C = .598

TABLE 2C

COLOR VS. BLACK AND WHITE

| Name of magazine | One color | Multi-color | Black & white | Total |
|---|---|---|---|---|
| *Life* | 100 | 1309 | 1178 | 2587 |
| *Illustrated Weekly of India* | 32 | 50 | 2510 | 2592 |

$\chi^2 = 1662.45$
P = .001
C = .492

TABLE 2D
APPEAL

| Type of appeal | *Life* | *Illustrated Weekly of India* |
|---|---|---|
| Food | 593 | 28 |
| Prestige | 64 | 14 |
| Sex | 131 | 61 |
| Social approval | 32 | 16 |
| Economy | 84 | 20 |
| Comfort | 141 | 105 |
| Safety | 52 | 39 |
| Welfare | 41 | 30 |
| Other | 108 | 24 |
| No appeal | 1341 | 2255 |
| Total | 2587 | 2592 |

$\chi^2 = 906.32$
P = .001
C = .387

TABLE 2E
ISOLATION

| Name of magazine | More than 50% | 50% | Less than 50% | No isolation | Total |
|---|---|---|---|---|---|
| *Life* | 168 | 430 | 497 | 1492 | 2587 |
| *Illustrated Weekly of India* | 32 | 42 | 278 | 2240 | 2592 |

$\chi^2 = 761.31$
P = .001
C = .357

## D. DISCUSSION AND CONCLUSION

The focal question of this study was the differences between American and Indian advertisements. It may be noted that many statistically significant differences were found between Indian and American advertisements. The predictive relationships of different elements are recorded in Table 3.

The differences may be due to many socio-economic and cultural factors. In the past the great bulk of advertising done in India has been intended to

TABLE 3
RELATIVE IMPORTANCE OF CERTAIN FACTORS IN DISTINGUISHING BETWEEN INDIAN AND AMERICAN ADVERTISEMENTS

| Factors | Coefficient of contingency |
|---|---|
| Size | .639 |
| Picture vs. story | .598 |
| Color | .492 |
| Appeal | .387 |
| Isolation | .357 |

attract attention to imported goods and has been paid for, directly or otherwise, by foreign manufacturers (5). They have not bothered much about advertising in India as they have been in a position to sell their goods easily in the Indian market. There has been a greater demand than supply in India. Therefore, the producers could sell their commodities easily and had little interest in perfecting advertising methods. Advertising in India was handled through foreign agencies, located not in India but in foreign countries (5). The complex nature of population, differences in caste and belief, religious sensitivities and other such factors were also responsible in making the task of advertising in India more difficult.

### 1. *Size*

The most striking difference between the two systems of advertising found in this study is use of large sized advertisements in America and use of small sized advertisements in India. A statistically significant difference was found at the .001 level. The contingency coefficient is .639, which denotes a high predictive relationship. Indian advertisements are clustered, mostly, around 1/20 page-size whereas American advertisements average around one full page in size. As Dr. Keskar, Minister for Information and Broadcasting, has pointed out, by and large, Indian industry has not been advertisement conscious; this difference is due to lack of appreciation by the management in industry and commerce of the role played by advertisements (7). Bigger sized advertisements are costly in India. The view prevailed at one time among the authorities that advertising was a wasteful activity and they were not in favor of spending much money on advertising whereas, in America, producers have spent much money on advertising.

### 2. *Picture vs. Story*

The difference between illustrations used in Indian and American advertising was found significant at the .001 level. The contingency coefficient being .598, the predictive relation of elements is high. In Indian advertisements, more space is used for story, whereas in American advertisements more space is devoted to the illustrations. Indian producers want to tell more facts about their products and about themselves. The same trend of telling more story, was common in America in the late 1890's (8). The size of Indian advertisements is, usually, small and by using more story it becomes crowded. It also reflects the susceptibility of the people. These variations are attributable to the difference in imagery types. Some can easily make visual or auditory image, whereas others need some other media to get information

(2). This difference seems even more striking if we keep in mind the fact that the country which uses the most text has only about 38 per cent literacy while in the country in which pictures take up the greater amount of advertising space almost all people can read.

### 3. *Color*

Concerning the use of colors, in India and America, the difference is significant at the .001 level. The coefficient contingency is .492, which is reasonably high. Indian advertisements are almost all in black-and-white. In America advertisers more frequently use multicolor advertisemnts. Kaiserman studied advertisements to investigate the use of color in three leading magazines between the years 1900 and 1930 and found that the use of color was 3 per cent of total advertisements in 1910. (3) In India, today, the use of color in advertisements is 1.23 per cent less than was used in 1910 in America. It was found that colored pictures are costlier than those in black-and-white, and small-sized colored pictures are costlier than big size colored pictures as related to their relative attention value (6). In India advertisers use small size advertisements which would be costly in color as related to their effective attention value. Other factors related to this difference are availability of new equipment, new devices and techniques in America, which are difficult and costly to get and use in India.

### 4. *Appeal*

Concerning the use of appeal in Indian and American advertisements, the difference is highly significant at the .001 level. But the coefficient of contingency being only .387 denotes that the predictive relationship of elements is not very high. The only important difference in type of appeals used were found in the following categories: food, sex, prestige and social approval and "other appeals" such as luxury, dependability and reliance.

Good packing and preservation of food stuffs, more mobility among Americans, tendency to eat out, and equal status of housewives and men and some other factors cause American producers to advertise their foodstuffs and drinks. In India people prefer to eat in their homes. They like to cook for themselves. Housewives are almost always confined to the kitchen. Some restrictions imposed by religion, caste and custom prevent their eating outside. The typical Indian cannot eat in a public restaurant because he must be careful not to eat food handled by other castes. (For the Indian this is a matter of sanitation.) In public restaurants, it is difficult to be sure that the "right" people have handled the food in the "right" way.

Some ethical considerations interfere with the use of sex appeal in India.

Much sexually related behavior which is accepted in America is tabooed in India. Kissing, or any physical contact in public, and exposure of the female body are all socially degrading. So almost no sex appeal is used even where it could safely and profitably be employed for selling luxurious articles and articles for style and beauty. Advertisements showing a beautiful girl, exposing her entire midsection and slogans like, "the skin you love to touch" "it must be 'the school girl complexion,' " "may he kiss you with open eyes?" are tabooed in India.

Prestige, social approval and "other appeals" are generally linked with automobiles, modern appliances and articles for luxury here in America. These things are scarce in India. So the question of using these appeals hardly arises in India. In America these articles are produced more in quantity. Keener competition among producers compels them to make more appeal to sell their commodities (the Indian companies' problem is getting capital, not consumers). American people, especially women, depend more on advertisements. They want promise for the future. When there is even a vague promise of beauty an American woman seems able to stretch herself a little further (4). Competition among consumers for social status affects the use of this appeal. Americans are more self-conscious. They strive hard for social status and approval and make more purchases for this purpose. India has been influenced to a great extent by the ancient scriptural teachings stressing simple living and spiritual development. According to this philosophy which still dominates certain groups in India, status is gained, not by owning things, but by being free from possession.

### 5. *Isolation*

As far as isolation is concerned American advertisers use a significantly greater amount of white space than Indian advertisers. This difference is significant at the .001 level. The contingency coefficient being .357, it seems that the predictive relationship of this element is reasonably high. The trend is toward the use of more white space in American advertisements while in Indian advertisements the use of white space is not great. This is partly due to use of smaller sized advertisements and partly due to Indian producers' tendency to give more information in text, which makes advertisements crowded. The tendency to fill advertising space with words was typical in America around the turn of the 20th century.

## E. Summary and Conclusions

The present study was designed: (*a*) To investigate similarity and dissimilarity between Indian and American advertisements and to test the

statistical significance of the differences obtained; and (*b*) To investigate the relationships between these differences in advertising and certain socio-economic and cultural factors.

In the present study, the authors selected one representative magazine each from India and America; the "Illustrated Weekly of India" published by the Times Press of India and the "Life" published weekly by Times Inc., in the U.S.A. In planning this study the five factors of size, picture, color, appeal, and isolation were carefully studied. Advertising samples were drawn on the basis of random sampling. Thirty-six copies from "Illustrated Weekly of India" published in the year ending December 1959 were selected. To make the study comparable, 34 copies were selected from all the issues of "Life" for the same period.

Several significant differences were found among Indian and American advertisements.

### 1. *Differences between Indian and American Advertisements*

*a.* The more striking difference between Indiaa and American advertisements is the use of larger sized advertisements in America and the use of smaller advertisements in India.

*b.* The American advertisers use more illustrations, while in Indian advertisements more of the layout space is devoted to story.

*c.* There is a tendency toward the use of multi-color in American advertisements. In contrast to this the Indian advertisers use black and white illustrations almost altogether.

*d.* American advertisers use more food, prestige, social approval, sex, and "other appeals" such as dependability, luxury and reliance than Indian advertisers.

*e.* The trend is toward the use of more isolation in American advertisements than in India.

### 2. *Recent Trends in Indian Advertisements*

*a.* There are some trends toward the use of larger sized advertisements, more illustrations, isolation and sex appeal in Indian advertisements.

*b.* More emphasis is, recently being given to research work. Authorities are now considering introducing advertising as a subject for advanced studies in the various Indian universities.

*c.* Another trend in Indian advertisement is related to radio broadcasting. In India the government owns all radio stations and it has permitted very little commercial advertising. So, in contrast to America, Indian producers

have not been able to supplement their magazine advertising with radio or television commercials. Currently the government of India is considering the possibility of introducing more commercial advertising into its radio programs.

Indian advertising is similar to American advertising around 1900-1920. The changes in American advertising resulted, at least in part, from the growth of the "affluent economy" and the application of scientific methods to the study of advertising.

If India succeeds in her present plan for solving the economic problems, an extremely rapid change in the nature of advertising could take place in India. After all, America was able to discover many of the advertising principles only after years of trial and error and research study. India, however, can profit from American investigations, and, except in areas of problems peculiar to the Indian culture, come abreast of America within a few years.

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# A COMPARATIVE STUDY OF SELECTED ATTITUDES, VALUES, AND PERSONALITY CHARACTERISTICS OF AMERICAN, CHINESE, AND INDIAN STUDENTS*

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## A. INTRODUCTION

Behavior may be regarded as normal or abnormal depending upon its conformity with existing social norms, or with the cultural norms of a given reference group. From the standpoint of cultural norms, maladjustment in one culture may be considered as adequate adjustment in another. According to Benedict, in ancient Greece and in some non-literate cultures of today, homosexuality is institutionalized and homosexuals are socially accepted and regarded as normal (2). Kluckhohn has also emphasized culture as an important reference point in evaluating human behavior. What actually influences an individual's behavior is that selective version of his culture which he internalizes as a result of having particular parents, living in one community as opposed to another, participating in a specific occupation and all the other "objective" and "subjective" forces which by selection and distortion may produce his private variant of the generalized culture. Kluckhohn conceives culture as consisting of patterns, explicit and implicit, and of behaviors acquired and transmitted by symbols, the latter constituting the distinctive achievement of human groups. The essential core of a culture consists of traditional (that is historically derived and selected) ideas and especially their attached values. Cultural systems may, on the one hand, be considered as products of action, on the other as conditioning elements of further actions (8).

Several psychologists have investigated the developmental characteristics of values, attitudes and personality under varying cultural patterns. Particularly in anthropology and social psychology there has been a growing awareness of the importance of understanding human behavior within different socio-psychological and cultural patterns. Personality is obviously shaped and changed by interactions with the culture in which the individual lives.

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In order to get social approval an individual's behavior must conform with the cultural norms. For example, Singh has found that some ethical considerations interfere with the use of sex appeals for advertising in India. Many sexual behaviors and attitudes which are accepted in America are strongly tabooed in India. Kissing and many less intimate forms of physical contact in public places are considered socially degrading in India (17). Within many Western cultures competition for social status and approval results in hoarding and ostentatious purchasing. Singh has reported that compared to Americans, the Indian people have been more influenced by ancient scriptural lessons stressing simple living and inner spiritual development. These attitudes still dominate the behavior of certain groups (followers of Gandhi and Binova Bhave) in India. Status is gained not by owning things, but by being free from possession (17). Murphy has noted that the Zuni achieve their "outworldly" cooperative pattern at a considerable psychological cost. However, their behavior is dominated by the demands of the culture in which they live (13).

Linton has expressed the view that the behavior of the members of any society and the forms of most of the objects which they use are largely stereotyped and can be described in terms of cultural patterns. When one says that the development of an individual's personality is shaped by his culture, what he actually means is that the individual is largely shaped by the experiences which he derives from the contact with such stereotypes and accompanying institutional forms (11).

The concept of "cultural norm" has been employed to describe the behavior of the individual. This concept is used not only to emphasize the social-interactional nature of behavior, but the wider area of the "cultural heritage" which molds individual personality. Linton has stressed the importance of this heritage and maintains that while the culture of any society determines the deeper levels of its members' personalities through the particular techniques of child's rearing to which it subjects them, its influence extends beyond these actions to shape many of their specific responses as well. These latter processes continue throughout life. As the individual matures, he constantly has to unlearn patterns of responses which have ceased to be effective and to learn new ones more appropriate to his current place in the society. At every step in this process, culture serves as a guide. It not only provides him with models for his changing roles but also insures that these roles shall be, on the whole, compatible with deep-seated value-attitude systems (11).

Unlike America, India and China have very old traditions, extending over

a longer history. Each culture has its own philosophy, way of life, ethics and art which have shaped to a large extent, the attitudes, values and personality of its people. It is not surprising that people who have grown up in such different cultures, should have different ways of living and different values and conceptions of the "good" life.

## B. Purpose of Study

Some of the behavior patterns of collegiate students in America are particularly striking to foreign students when they first come to this country. The striking differences in the values, attitudes and ways of living of American, Indian and Chinese students motivated the present authors to undertake a comparative study to investigate some of the underlying determinants of these differences. The present study rests on the assumption that (*a*) human personality is largely a product of the individual's habits learned in the particular culture in which he is reared, and (*b*) personality is merely an abstractional derivative of the culture.

The purposes of this study were twofold:

1. To survey some of the differences and similarities in the personality characteristics of American, Indian and Chinese students studying at a large American university on the assumption that they have had somewhat different cultural backgrounds.

2. To investigate certain socio-psychological and cultural determinants of these differences, and to test the statistical significance of the differences obtained.

The findings of several previous investigations are related to the present study. For example, Northrop has contrasted the meaning of western and eastern culture by the concept of the theoretical vs. aesthetic component. In his analysis, western individuals are more theoretical whereas eastern are more aesthetic (14). Morris has contrasted five cultures. He found that American students wish most of all to be flexible and many sided. The value patterns of Chinese young people are actively and socially oriented to an extreme degree and their modes of life directed towards self or towards nature. Indian students place a strong emphasis on social restraint and self-control. They are more sympathetic and receptive. The Indian value pattern is most like that of the Japanese, and most unlike the American (12).

Hsu has described the social and economical attributes of Chinese and American people and concludes that mutual dependence is the outstanding Chinese characteristic. The self-reliant American, however, strives to eliminate from his life both the fact and the sense of reliance upon others. Hsu also

notes the difference between the Chinese and the American approach to the concept of God. The Chinese look for Buddha or some other divinity or spirit who can render immediate and specific assistance to all who are in trouble. The Chinese cultural pattern also reflects strong submission to authority (7). Lin has discussed the ideals of life of the Chinese and notes that for the Chinese the end of life lies not in life after death, for the idea that we live in order to die as taught by Christianity is incomprehensible (10). According to Northrop, characteristics of the Chinese culture are Confucius' philosophy, family and aesthetic components (14).

Lerner regards Americans as diverse and multiple purposed. The life goal of the average American is success, prestige, money, power and security; and the main aim of life is to be happy (9). In contrast to this, according to Singh, the average Indian believes in simple living and spiritual development. He believes that status is gained not by owning things but by being free from possession (17).

Thakkar regards casteeism and untouchability in India as twin problems that seriously affect Indian society. "Verna" is an old concept dividing men into four classes, by qualities and merits rather than by birth. In modern time the Verna has been transformed into innumerable castes which are heredity and rigid in boundary, prohibiting inter-dining and inter-marrying (18).

Singh's study of the tension in two villages of North India among Ruling Thakur (Kshattriya) and five of their tenants and hereditary workers (the Ahir, Baniya, Chamars, Lohars and Nonia) reported that most of the castes were in a state of high tension. The core of conflict between castes was found to lie on the one hand in the attempt by the low caste people to assert their newly found economic, social and political rights; and on the other hand, in the desire on the other part of the dominant Thakurs to suppress their movement and to maintain the status quo (16).

Deshraj studied and compared some of the effects of the American and Indian cultures on the personality patterns of their respective members. He found that the Indian group when compared with the American group seemed to have higher traits of affiliation, nurturance, succorance, deference and resignation and lower traits of aggression. The Indian group produced a higher correlation than the American group between the traits of nurturance and succorance (4).

Carstairs notes that for Indians death is not final, but merely one incident in a long series. According to Rigveda, the wife lies on her husband's funeral pyre to symbolize her wish to join him. He further says that a still more

dramatic instance of triumph over death is shown in the sacrament of Samadhi, or apotheosis. Sanyasi, after burning his "choti" and triple thread, eats the ashes and performs an after death ceremony for himself (3).

## C. Subjects, Procedures and Results

### 1. *Subjects*

In planning this study, the aim was to make it as broad and comprehensive as possible. The following samples were drawn on a random basis: 37 American, 37 Indian and 37 Chinese students from The Ohio State University. Subjects were drawn from the following fields of study: Engineering, Natural Science, Agriculture, and Art. Each sample consisted of 37 students, 28 of whom were male and nine female. The religion of the American students was Protestant or Catholic; of the Indian students Hindu, Jain, Sikh, Muslim or Protestant. The Chinese students mostly did not believe in God, although a few were Protestant, Catholic, or Buddhist. Length of the stay of Indian and Chinese students in America varied from one year to five years.

### 2. *Procedure of Testing*

All the students selected for this study were requested to complete several questionnaires. All the students got the questionnaires either by mail or distributed personally with a letter, explaining that the inquiry would be considered strictly confidential.

The questionnaires consisted of the Allport-Vernon-Lindzey *Study of Values* (1), Charles Morris' *Ways to Live* (12), Sanford and Older's *AE Scale* (15), and *Edwards' Personal Preference Schedule* (5). The PPS provides measure of 15 personality variables. But in this study the investigators selected only 78 paired items which are related to the three variables: autonomy, succorance and nurturance. On the front of the questionnaire booklet, it was noted that this was simply a study of people's reactions and that all responses would remain anonymous. There was no time limit, but the subjects were asked to work as fast as possible. The range of time spent on the questionnaires, according to their reports, was from one to three hours.

### 3. *Results*

Each of the variables for the American, Indian and Chinese subjects was statistically analyzed by use of the F test (with exception of Morris' *Ways to Live*).

The findings are summarized in Tables 1 through 4. Several statistically

significant differences were found among the American, Indian and Chinese students' attitudes, values and personality patterns. The differences are attributed to socio-psychological and cultural factors.

## D. Discussion and Conclusions

### 1. *Self-centered vs. Society-centered Orientation*

The most striking contrast among the groups in this study was the more self-centered tendency in the American students. Indian students stand in the middle on this dimension but are closer to the Chinese students. A highly significant difference was found on this social value as measured by the Allport-Vernon-Lindzey scale. The Chinese students give more emphasis to the value of social life. Self-centeredness is socially disapproved in the Chinese culture. Indian children get much sympathy from parents and other family members, and thereby become highly sympathetic to others. At the same time they strive to maintain their individuality.

### 2. *Aesthetic Values*

The Chinese students obtained significantly higher scores on aesthetic values than the American and Indian students. Art, literature and philosophy have a very long and honored history in China, and the Chinese students appear to reflect this value orientation.

### 3. *Political and Economic Values*

Indian students got higher scores on both economic and political values. Newly achieved political and economic independence in India has probably sensitized Indian students to these values. They are more conscious of their recently acquired independence and are highly concerned about the political and economic development of their country.

Economically, India is presently facing a crisis and is passing through a transition period. Both government and social service personnel give emphasis to the economic development of the country.

### 4. *Religious Value*

It is surprising to note that Indians, who have a very old history, many traditions, ideals and complex philosophies of religion secured the lowest score on religious values. This may be due to the effects of an English educational system and its cultural influence. Most of the Chinese students have little religious interest compared to the American students. This finding supports Lin's opinion that "The trait, our concentration on earthly

TABLE 1

ALLPORT-VERNON-LINZEY'S STUDY OF VALUES

| Types of values | American mean | Indian mean | Chinese mean | (F) | Level of significance (p) |
|---|---|---|---|---|---|
| Theoretical | 49.68 | 46.64 | 47.81 | 1.625 | N.S. |
| Political | 37.38 | 40.13 | 37.30 | 3.457 | .05 |
| Economic | 37.54 | 47.30 | 34.78 | 26.905 | .01 |
| Religious | 40.49 | 32.56 | 35.35 | 4.722 | .05 |
| Social | 33.35 | 37.00 | 40.08 | 9.172 | .01 |
| Aesthetic | 38.81 | 33.00 | 44.00 | 18.404 | .01 |

TABLE 2

AUTHORITARIAN PERSONALITY (A-E SCALE)

| American mean | Indian mean | Chinese mean | (F) | Level of significance (p) |
|---|---|---|---|---|
| 23.05 | 27.32 | 26.16 | 7.92 | .01 |

TABLE 3

WAYS TO LIVE

| Rank order by mean | Way | Mean rating | Way | Mean rating | Way | Mean rating |
|---|---|---|---|---|---|---|
| 1 | 7 | 5.19 | 1 | 5.94 | 5 | 5.32 |
| 2 | 1 | 4.65 | 3 | 5.45 | 1 | 5.16 |
| 3 | 6 | 4.51 | 6 | 5.30 | 3 | 5.13 |
| 4 | 8 | 4.49 | 7 | 5.27 | 6 | 5.11 |
| 5 | 12 | 4.16 | 5 | 4.75 | 10 | 4.84 |
| 6 | 3 | 3.84 | 10 | 4.72 | 7 | 4.73 |
| 7 | 10 | 3.84 | 13 | 4.57 | 13 | 4.32 |
| 8 | 5 | 3.38 | 11 | 4.56 | 8 | 4.06 |
| 9 | 4 | 3.30 | 4 | 4.16 | 12 | 3.84 |
| 10 | 9 | 3.05 | 12 | 4.16 | 2 | 3.76 |
| 11 | 2 | 2.97 | 9 | 3.56 | 11 | 3.51 |
| 12 | 11 | 2.73 | 2 | 3.54 | 9 | 3.46 |
| 13 | 13 | 2.53 | 8 | 3.43 | 4 | 3.43 |

TABLE 4

EDWARDS' PERSONAL PREFERENCE RECORD

| Types of needs | American mean | Indian mean | Chinese mean | (F) | Level of significance (p) |
|---|---|---|---|---|---|
| Autonomy | 14.43 | 10.50 | 12.59 | 10.06 | .01 |
| Succorance | 8.46 | 6.24 | 11.19 | 16.31 | .01 |
| Nurturance | 10.32 | 15.64 | 15.49 | 26.30 | .01 |

happiness, is as much a result as a cause of the absence of religion" (10). In constrast to this, Lerner states "America is as secular as a culture can be where religion has played an important role in its origins" (9).

### 5. *Authoritarian Personality*

The Chinese and Indian students are more authoritarian than the American students. The Indian students scored even higher than the Chinese students on this variable. In India and China, families are large and the family pattern is authoritarian. The eldest of the family gets respect from the younger, and this hierarchy has persisted down through the ages. Children reared in such families become more authoritarian. American children grow up in a single family unit, eventually separate from their parents and make their own homes. According to Gorer, "The making of America demanded that the father should be rejected both as a model and a source of authority" (6). But the Indian and Chinese children respect their parents as a model and authority even after becoming adult and father/mother of their own children. Another distinguishing characteristic of the Chinese and the Indian cultures is a strong emphasis on the dignity of the human being. Peaceful co-existence appears to them to demand authority and submission.

### 6. *Autonomy, Succorance and Nurturance*

American students scored higher on autonomy while Chinese and Indian students scored higher on nurturance. American students want to lead their own lives and like little interference in their personal affairs. The American culture gives more emphasis to personal autonomy and individuality. In contrast to this, Indian and Chinese students give more emphasis to sympathy, love, affection, mutual help and family bond, resulting in sympathetic and sacrificing attitudes. In China and India social practices and institutional forms are such that children reared in these soiceties become more socially oriented. They apparently enjoy helping others and showing a great deal of affection.

### 7. *Ways to Live*

The American students rated Ways 7, 8, and 12 higher than the Indian and Chinese students:

Way 7: Integrative action, enjoyment and contemplation.

Way 8: Live with wholesome and carefree enjoyment.

Way 12: Chance adventuresome deeds.

The Indian students, in contrast to above, tended to prefer the following Ways:

Way 3: Show sympathetic concern for others.

Way 13: Obey the cosmic purpose.

The Chinese students are nearer to the Indian than the American students. They preferred Ways 3, 5 and 13.

Way 5: Enjoyment in group participation.

Inspection of these data shows that the American students desire a flexible and many sided life with much self-indulgence. The Chinese and Indian students apparently get greater enjoyment from social life and tend to be more concerned with other people. This result is consistent with the findings of Morris' previous study (with certain exceptions) which was completed in 1948. There are, however, slight differences between the findings of this study and those obtained by Morris. Morris' sample consisted of almost all typical Indians who had never been out of India whereas this study sampled highly educated Indian and Chinese students studying in America and drawn from several castes, creeds and religious backgrounds.

## E. Summary and Conclusions

*a.* The most striking contrast among the groups is the more self-centered orientation of the American students and more society-centered orientation of Indian and Chinese students.

*b.* The American students are somewhat more theoretical than the Indian and Chinese students. The Chinese students are more interested in aesthetic value.

*c.* The Indian students are more politically conscious and economically oriented than the American and Chinese students.

*d.* The Indian and Chinese students are more authoritarian than the American students.

*e.* The American students are more religious than the Indian and Chinese students.

*f.* The American students seem to wish for a flexible and many-sided life, while the Indian and Chinese students prefer to enjoy life through group participation and show more concern for other people.

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# THE EFFECT UPON RECALL OF SYNTACTICAL CONSTRUCTION IN GERMAN*

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## A. INTRODUCTION

The separation of interdependent words occurs more frequently in German than in English. *Ich* werde *morgen früh nach Hause* gehen; here the auxiliary "werde" signals the possibility that the future tense is about to be employed but not until the appearance of "gehen" after the information about the time and destination of the action is there any way of knowing that the speaker intends tomorrow morning to *go* home rather than to swim or fly there. An exploratory study was undertaken to determine whether German syntax of this type, which to a speaker of English seems to provide an element of suspense in German sentences, has an effect upon recall.

Two preliminary speculations are relevant. In the first place, conceivably a German auditor or reader must be especially attentive if he is to grasp the meaning of a sentence containing a separated construction; if for some reason he is not attentive, he may perceive the message incorrectly or not at all. Then, secondly, if relevant information is indeed perceived, constructions producing suspense may be learned either more readily because the surprise creates a deeper impression or not so readily because the appearance of the foreshadowed word or words leads to closure. In order to examine the second surmise, attention in the present study was kept at a maximum, it was hoped, by having children read an interesting story in the classroom.

## B. PROCEDURE

Four syntactical constructions in German were utilized: (*a*) the separation of the auxiliary from the main verb in the principal clause; (*b*) the separation

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of the subject from its verb in a dependent clause; (*c*) the separation of a prefix from a verb; and (*d*) the separation of an article or its equivalent and its noun by a phrase inserted between the two. The prose was part of a not particularly famous story by the Grimm Brothers titled "Death's Messengers." In this portion, a total of 40 constructions could be manipulated: 14 verbs with auxiliaries, six dependent clauses, 11 prefixes, and nine phrases. For all 40 cases, the investigator and a German-language expert provided two syntactical forms almost completely equivalent in meaning but differing with respect to construction. An example of each is given below in context and in italics:

1. Auxiliary
   a. Separated: ich *kann* dich zwischen den Fingern *zerdrücken.*
   b. Non-separated: ich *zerdrücke* dich zwischen den Fingern.
2. Dependent clause
   a. Separated: Als *er* den Halbohnmächtigen *erblickte,* ging er mitleidig heran.
   b. Non-separated: *Er erblickte* den Halbohnmächtigen und ging mitleidig heran.
3. Prefix
   a. Separated: Der Riese . . . *fing* infolgedessen *an,* mit dem Tode zu ringen.
   b. Non-separated: Der Riese . . . *begann* mit dem Tode zu ringen.
4. Phrase
   a. Separated: Ich bin der *sofort erkennbare* Tod.
   b. Non-separated: Ich bin der Tod, *der sofort erkennbar ist.*

Two versions of the story were assembled by assigning randomly either a separated or non-separated construction at each point: in one version there was a total of 19 separated and 21 non-separated constructions, and in the other the proportion was reversed. Both versions were given the same title—*"Der Riese und der Tod"*—and looked identical when mimeographed. As a classroom exercise the regular teacher or a school official told the pupils to "read the story carefully"; in each room the two versions were randomly distributed. After an appropriate period of time, *S*s detached their copies of the story from a blank piece of writing paper and handed them to the teacher. They were then instructed first to indicate "the meaning of the story which you have just read" and then to "recall the story; how much of it can you now write down?" They never knew that an American was conducting the research.

Six classes of German-speaking children in the cities of Meran (Merano) and Bozen (Bolzano) and in the village of Terlan (Terlano), South Tyrol (northern Italy), were the *S*s; the total *N* was 157. The mean age of the

*Ss* in the two top grades of a primary school was 11.1, with the range being from 9 to 13; the corresponding figures for the *Ss* in the other two schools, both secondary schools, were 14.0 and 18.9, with the respective ranges from 12 to 17 and from 17 to 22. The two sexes were represented in virtually equal numbers.

All coding was done by the writer. For each of the 40 cases it was first noted whether the construction itself and the sentence in which it had been embedded were recalled. Then, when there was some recall, the form and content of the material were categorized with reference to the two syntactical constructions originally employed in the two experimental groups. Reliability was determined by having a German-speaking teacher independently code 16 papers (10 per cent of the total) after learning the system of content analysis. Agreement was 100 per cent with respect to whether a construction had been recalled or whether it was identical with either of the original constructions; for the remaining categories agreement seldom dropped below 90 per cent; and the lowest disagreement was 11 out of 16 for one construction. Papers incomplete because *Ss* wrote too slowly were scored only up to the point when recollection ceased; thereafter they were discarded and not included among the "no recalls."

One illustration of the raw data is provided in order to illuminate the coding procedure. The story began with the traditional phrase translatable as "in ancient times" or "long, long ago." Below is the analysis of the way in which the phrase was recalled; the first number after each category is the *N* for the 79 *Ss* who saw the separated version, the second for the 78 who received the non-separated one:

*a.* No recall at all: 23 and 23.
*b.* (Separated version) *Vor längst vergangenen Zeiten*: 12 and 5.
*c.* (Non-separated version) *Vor Zeiten, die längst vergangen sind*: 3 and 16.
*d.* No. 2 above, with *"längst"* omitted: 14 and 9.
*e.* No. 3 above, with *"längst"* omitted: 0 and 1.
*f. Vor alten Zeit*: 3 and 5.
*g. Einmal, einst,* or *eines Tages*: 24 and 17.
*h.* Very distorted: 0 and 2.

## C. Results

Differences between schools or between sexes as well as among the three types of syntactical constructions were small and statistically insignificant; hence all data have been combined to detect general tendencies. For the

combined data, however, significant differences in each of the 40 cases of syntactical construction were so infrequent that only a series of sign tests was fruitful. In fact, the clearest finding of all in the investigation was that the differences by and large were very small.

First a comparison was made between the percentages in the two experimental groups failing to recall any aspect of the construction. The result was negative: of the 40 cases, the higher percentage of complete forgetting occurred 22 times when the construction had been a separated one and 17 times when it had been non-separated; and there was a single tie. Equally inconclusive was any other analysis of the overall effect of the syntactical constructions; for example, the recall not of the precise expression that had been perceived but of the general idea of that expression as recollected both literally and through the use of synonyms was likewise unaffected.

In fact, it must be immediately added, there was a strong tendency, whenever complete forgetting was rare, for the *S*s to employ more or less equivalent synonyms in their recollections rather than the actual expression they had perceived in the version of the story distributed to them. The number of *S*s using synonyms exceeded the number using the perceived expressions in 30 cases out of 40 on one version of the story and 33 out of 40 on the other; and in all these 80 cases at least one *S* produced an adequate synonym. In the example cited above to illustrate the coding procedure, only 12 *S*s wrote the expression which had appeared in their version of the story (*"Vor längst vergagenen Zeiten"*), whereas 24 offered a very adequate substitute (*"einmal," "einst,"* or *"eines Tages"*). Of the 17 exceptions just cited in the two versions, all but one occurred under the special condition of the modal response being no recall whatsoever; and so the mean number of *S*s having some kind of correct recollection was significantly higher in those cases involving greater synonym recall than in those involving greater precise recall ($t$ tests, $p < .05$). Very often one of the synonyms turned out to be the expression which the *S*s themselves had not perceived in their version of the story but which had appeared in the version given the other experimental group. In the same illustration, the expression *"Vor längst vergangenen Zeiten,"* which had confronted one experimental group and was then recalled by 12 of its members, was also employed by five *S*s who had not seen it but had read (or had had the opportunity to read) the non-separated construction. This latter phenomenon occurred one or more times in 33 out of 40 cases on one version of the story and on 37 out of 40 on the other.

In the remainder of the analysis a distinction is drawn between "literal"

and "form" recall. In "literal" recall virtually the precise wording that had been employed in one of the two versions of the original story appeared in the recollection; synonyms were excluded. In "form" recall the syntactical construction of the expression used in recollection was taken into account, whether it was the precise one from the original story or a synonym thereof; the words, phrases, or clauses were simply categorized as separated or non-separated. The principal trends are shown in Table 1. Under "Literal Recall" and "Form Recall' are three columns: "Total" refers to still another comparison between the two experimental groups, and A and B refer to

TABLE 1

NUMBER OF CASES IN WHICH THE INDICATED COMBINATION OF ATTRIBUTES CHARACTERIZED THE CONSTRUCTION RECALLED BY THE LARGEST OR LARGER PERCENTAGE OF *Ss*

| | | | | Literal recall | | | Form recall | | |
|---|---|---|---|---|---|---|---|---|---|
| | Separated | Perceived | Familiar | Total | A | B | Total | A | B |
| 1. | + | + | + | 6 | 6 | 8 | 9 | 6 | 7 |
| 2. | + | + | — | 3 | 5 | 5 | 5 | 6 | 5 |
| 3. | + | — | + | 2 | 2 | 5 | 3 | 4 | 4 |
| 4. | + | — | — | 0 | 2 | 0 | 2 | 1 | 3 |
| 5. | — | + | + | 17 | 11 | 9 | 8 | 10 | 5 |
| 6. | — | + | — | 7 | 6 | 7 | 5 | 3 | 6 |
| 7. | — | — | + | 0 | 2 | 3 | 4 | 4 | 8 |
| 8. | — | — | — | 1 | 3 | 1 | 2 | 6 | 1 |
| 9. | tie | tie | tie | 4 | 3 | 2 | 2 | 0 | 1 |
| | | | | 40 | 40 | 40 | 40 | 40 | 40 |

each of those groups considered separately. In the first three columns of the Table the constructions used by the *Ss* in recollecting the story were characterized with respect to three attributes: a *plus sign* means the attribute indicated on the column heading characterized the construction employed by the highest or the higher percentage of *Ss*, a *negative sign* means that the opposite of the attribute characterized the construction so employed. "Separated" again refers to the attribute of separated vs. non-separated as previously defined; "perceived" to perceived vs. not-perceived in the version of the story that had in fact been read; and "familiarity" to the familiarity vs. non-familiarity of the construction. For determining the last named attribute no word- or phrase-frequency tables exist for Tyrol; hence a measure of familiarity had to be somewhat crudely determined by having 12 school teachers in the area indicate which of the two constructions with and without auxiliary verbs and also which of the two with and without dependent clauses "sounds more natural or 'better'," which of the two verbs with and without the prefix "one uses more frequently," and which of the two

constructions involving phrases and clauses "appears more customary." In almost all instances the judges agreed with one another perfectly.

Two different kinds of comparisons appear in Table 1. For two columns labelled "Total," the largest or modal percentage of recall for each of the 40 cases was first determined. In each experimental group there were two cells, for "Literal Recall" only the two constructions in the original versions of the story, and for "Form Recall" the dichotomy of all correct recollections as separated or non-separated. The percentage whose attributes were then determined, therefore, was the largest in the four cells (two cells $\times$ two experimental groups). When an experimental group was examined separately under A and B, the attributes of the larger of the two percentages were determined. The first row of the Table, for example, has three plus signs which consequently signify that the largest or larger percentage occurred in connection with an expression used in recall that was separated in syntactical form, that had been perceived in the original story, and that could be considered familiar. Of the 40 cases, the Table indicates that there were six which could be so characterized when both experimental groups were examined ("Total"), likewise six for one of the groups examined alone, and eight for the other so far as literal recall is concerned; corresponding figures for form recall were 9, 6, and 7.

Only once is the attribute of syntactical construction part of a significant trend on Table 1, and then the "total" expression in literal recall tended to be of the non-separated type in 25 out of 36 instances (rows 5-8, $p < .05$). One of the other two attributes, however, was more important. The content and form of the expression used most or more frequently in recollection very definitely tended to be the one that had been perceived in the version of the story previously distributed (rows 1, 2, 5, and 6 of Table 1); for all three instances of literal recall and for the "total" of formal recall, the application of the sign test produced a $p$ of less than .05. Familiarity characterized content and form much less decisively (rows 1, 3, 5, and 7 of Table 1): although there was a tendency for the recollected constructions to be or to resemble the familiar ones as here defined, the trend was significant only with respect to the "total" comparison under literal recall. As ascertained by a significance test for correlated proportions, the attribute of perception was present more frequently than that of non-separation with respect to literal but not form recall; and in the same respect but only on the "total" comparison did it appear significantly more often than familiarity. According to the same statistical test, separation or non-separation and familiarity, on the other hand, played indistinguishable roles.

## D. Discussion

The failure to obtain clear-cut results on the 40 cases of syntactical construction again underscores the fact that the factors affecting the perception, mediation, and retention of verbal responses are difficult to specify and probably interact with one another in a complicated manner; and it thus reinforces the warning that, although exotic instances in various languages can be found which on a priori grounds may be expected to affect behavior, it is extremely hazardous to infer psychological processes from the structure of a language (cf. 2). In this particular experimental situation it must be presumed that the original story produced certain internal responses which, when reinstated under conditions of recall, mediated a gradient of responses. When attention is focused only upon the expressions appearing in the two versions of the story, the clearest, strongest tendency was the undramatic, mundane one to reproduce the expression that had been originally perceived. In this restricted comparison, it was also found that presumed familiarity with an expression was influential if only in a minor way; and there was, for the combined group on precise recall, a tendency to employ non-separated forms of syntactical construction.

Most important of all was the inclination of the Ss to recollect a synonymous expression that they had not perceived in the story. For them information could be accurately stored in a manner differing more or less markedly from the response to the original stimulus, just as it has been previously shown that *S*s could accurately recall propositions without being able to state correctly in which of two languages the material had been originally perceived (Doob, 1961, p. 207). What, then, determined the choice of the expression along the gradient? On the one hand, a very restricted analysis confined to the expressions employed in the two versions of the story and to their syntactical form would indicate no tendency whatsoever for the constructions that had not been perceived but that had been employed in the recollection to be either separated or non-separated or, as previously defined, familiar or unfamiliar. Familiarity, on the other hand, may have been quite crucial. In the first place, the tendency to recall an expression from the experimental version that had not been perceived rather than from the one that had been made available occurred significantly or almost significantly less often among the younger elementary school *S*s than among the older ones in the two secondary schools; such steps along the gradient, consequently, may be acquired with increased education or maturity.

Then, of the 14 cases in which it was possible to make a rough empirical check, all offer evidence suggesting that the recollected synonyms may have

been more "familiar" than either of the perceived constructions. Unfortunately the original 12 teachers in the Tyrol who served as judges of the familiarity of the experimental constructions could not be used to assess the relative familiarity of those constructions and the synonyms used in recollection since this last part of the analysis was not foreseen while the investigator was in residence there. Instead reliance had to be placed upon a general word count of the German language (Morgan, 1928) that is not very satisfactory for the present purpose: it is based upon documents that appeared toward the end of the 19th century and not upon the actual speech habits of these *S*s in the South Tyrol; it contains of course only words and not syntactical variations. The numbers in parentheses in the illustrations which follow come from this source and represent the rank order of the "basic" word (that is, the stem without a prefix or suffix) in a list of 2,402 words: the lower the rank, the more frequently the word appeared in the original count and so *perhaps* the greater its familiarity.

Instead of saying, for example, that the giant wandered (*wanderte*: 1033) or travelled along (*zog . . . dahin*: unknown, but *ziehen* alone is 75) a highway, the *S*s modally stated simply that he went (*ging*: 57) along it. There was often a kind of flattening of meaning in the selection of a synonym; a character did not shout (*schrie . . . an*: unknown, but *schreien* alone is 982) or cry out (*rief*: 304) but merely spoke (*sprach*: 93) or said (*sagte*: 89) something. In one case the non-separated construction was the very familiar word for "come" in the past tense (*kam*: 60): of those *S*s who saw *kam,* nobody failed to recall the concept correctly, and 86 per cent used the exact word in their recollection; of those who saw the separated construction (*spazierte . . . daher*: unknown, but the closely related *Spaziergang* is 1556), four per cent recalled nothing, four per cent recalled that separated construction, and 87 per cent used the non-separated construction *kam* which they had not seen.

The evidence in this experiment offers no reason to reject the null hypothesis concerning the effect upon recall of the syntactical constructions here examined. Perhaps an effect may be discoverable when the communication is oral rather than written or when the attention of *S*s is not optimum. Or it might appear if it were possible to use pairs of words which, though differing in syntactical construction, are not only equally but also extremely familiar, as was not the case in this investigation. But, it must be plaintively stated, actual psychological familiarity for particular *S*s is not easy to establish, and equivalent constructions which the thought structure of a sentence demands are seldom at hand. Possibly the syntactical effect operates only for certain types of *S*s, in various kinds of verbal contexts, or even

perhaps only with reference to some syntactical constructions. In the present instance, for example, the number of cases in which separated and non-separated verbs and auxiliaries as well as verbs and prefixes were forgotten turned out to be virtually equal, but there was a not quite significant tendency, as determined through a sign test: (*a*) for phrases to be forgotten more frequently when separating an article and its noun than when part of a dependent clause; and (*b*) for verbs to be forgotten more frequently when next to their subject in a principal clause than when separated from it in a dependent clause. Were this last finding to be subsequently verified, it would then be necessary to formulate a theory based on more than the fact of separation.

## E. Summary

Two versions of a portion of a story by the Grimm Brothers were randomly distributed to 157 German-speaking pupils in South Tyrol. The story contained 40 syntactical constructions which were experimentally manipulated. In one version, 19 of 40 constructions reflected a characteristic of the German language to separate through intervening words two interdependent words (a verb and its auxiliary; a subject and its verb; a verb and its prefix; and an article and its noun) and 21 offered the same meaning in a non-separated form; in the other version the separated or non-separated syntax of each construction was reversed. *S*s read the story through and then recalled as much of it as they could. It was found that total recall of the 40 constructions was not affected by this syntactical characteristic. Instead there was a strong tendency for *S*s to use as their recollection not the construction which they had seen but a presumably more familiar synonym, including constructions that had been offered to the other rather than their own experimental group. A restricted comparison of the frequency with which the actual constructions employed in this investigation were recalled indicated that such recollections depended markedly upon the expressions that had appeared in the version of the story read by *S*s and also that they had a slight tendency to be non-separated and to be familiar.

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# RELATION OF SENSE OF HUMOR TO INTELLIGENCE* [1]

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## A. THE PROBLEM

Humor, and its consequent, laughter, are universal; indeed man may be descriptively defined as "the risible animal." There is little agreement, however, as to the precise nature of humor, for various definitions have been offered, most of which stress humor's intellectual aspects.

Most of the work in the study of the relation between humor and intelligence was done in the 1920's and 30's. In 1925, Bird (1) reported a correlation of +.89 between success in a humor test and the IQ's of her subjects; Kenderdine (3) found that, in a group of pre-school children with 100 possibilities for laughter, in the group with an average IQ of 141, the average number of laughs was 13 as contrasted to an average of four laughs for the entire group; in 1932 Justin (2) stated that coefficients of correlation between IQ and length and number of laughter responses to the incongruity type of humorous situation ranged from + .40 at three years to + .12 at age six; and in 1939 Laing (4), in a study of children from seven to eighteen years of age, concluded that the development of the sense of humor paralleled the development of intellect. A contrary finding in regard to the presence of a relationship between sense of humor and intelligence, however, was reported by Stump (7) who stated that high scores on college entrance examinations do not necessarily indicate the presence of a sense of humor.

In addition to the possible relation of humor to intelligence, it should also be noted that an adequate method of appraising an individual's sense of humor would be of great value in this age of over-anxiety and insecurity. In coping with situations of such an age, an ability to see things in their proper perspective and to laugh at oneself would be of great aid (6).

## B. PROCEDURE

### 1. *Tests Used*

*a. Raley Cartoon Test.* To measure adequately any kind of a trait there must be about it a certain stability that will assure a relatively high degree

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[1] This paper is based upon a master's thesis completed at Fordham University. The author would like to acknowledge the advice and suggestions of Dorothea McCarthy under whose direction this study was done.

of reliability. Humor, by its very nature, possesses that quality of consistency and thereby lends itself to the neatly designed technique of scaling—especially when concrete humorous situations, as cartoons, are used for material for judgment (6).

To fill a gap in the experimentation in humor between the lower grades and the college level, Sister Agnes Lucile Raley (5) designed a study to test, by as objective a method as possible, the stability of humor preferences of subjects of ages ten to nineteen in grades six through twelve. Following the standard technique of L. L. Thurstone and E. J. Chave (23), a scale of attitudes was achieved by the method of equal appearing intervals. The scale is highly reliable (reliability coefficient of + .98 with a P.E. of ± .01) and is the starting point for obtaining, in a very objective way, more pertinent information about humor.

This test was considered a suitable one for the purposes of this study as the subjects were of similar age and grade placement to those used in the Raley experiment. It is easy to obtain the mean positional ranking of each cartoon by an individual and thereby judge how far he deviates from the standard rank order. Using a value of four as indicating complete agreement by an individual with the standard rank order in the normative sample, each of the eight categories (men, women, romance, children, cars, animals, sports, and soldiers) yields a range of scores ranging from eight to sixteen, with a total score on the entire scale ranging from 128 for those in complete agreement with the normative sample to 64 indicating complete disagreement with the standardization norms.

*b. Thurstone Test of Mental Alertness.* For the measurement of intelligence for the purposes of this study, the Thurstone Test of Mental Alertness was selected. This test is a short adaptation of the American Council on Education Psychological Examination; the shorter test has the advantage of more compact arrangement, less testing time, greater ease in administration, simplification of scoring and reliable norms of performance at the four grades of high school. The test yields, besides a Total Score, an L-score (Linguistic Ability) and a Q-score (Quantitative Thinking). Parallel-form reliability coefficients were found to be close to +.90 (9).

### 2. *Subjects*

The *S*s were 70 girls, high school freshmen within a range of one year in age. The girls were well-motivated for the purposes of this experiment, and there was no difficulty in obtaining their cooperation.

### 3. *Method*

The tests were administered to two groups of 35 *S*s each. Two groups were used because of the limited number of forms available of the Raley Cartoon Test. For the Thurstone Test of Mental Alertness, the standardized instructions in the manual were followed.

In regard to the Raley Cartoon Test, five complete forms were used in this study. Therefore, there were available 40 sets of four cartoons (five forms with eight categories each) to be ranked for funniness by the *S*s. In order to prevent the possibility of the individual ratings being influenced by the remarks of others, the sets of cartoons were distributed in such a manner than none of the *S*s would be rating the cartoons in the same category as any of the other *S*s in her immediate area at the same time. Sets were initially distributed in categorical order according to the form. After an *S* had completed the ranking of one set of four cartoons each, she returned those to the experimenter to be replaced by a set which she had not yet ranked and which was not in use at that time by any other *S* in her same area. Silence was preserved throughout the group during the ratings.

## C. Results and Discussion

Means and Standard Deviations obtained on the two tests administered are given in Table 1. On all the scores for the Thurstone Test of Mental Alertness the Means were within the low to average group. The Standard Deviations on the Thurstone Test of Mental Alertness (in comparison with an average Standard Deviation of 20), gave evidence that the dispersion of the group tested was larger than usual.

TABLE 1
Means and SD's of Raley Cartoon Test and Thurstone Test of Mental Alertness

| Test | Mean | SD |
|---|---|---|
| Raley Cartoon Test | 101.15 | 5.79 |
| Linguistic Ability | 52.93 | 26.29 |
| Quantitative Thinking | 45.93 | 31.42 |
| Total Thurstone Score | 50.07 | 23.28 |

Pearson product-moment correlations were computed between the scores on the Raley Cartoon Test and the three scores on the Thurstone Test of Mental Alertness. The correlations obtained are given in Table 2.

Negative relationships between all aspects of the intelligence test used and the cartoon test are evident. Although one of these coefficients is statistically significant, the consistent low negative relationships are not in agree-

TABLE 2
PRODUCT-MOMENT CORRELATIONS BETWEEN THE RALEY CARTOON TEST AND VARIOUS SCORES ON THE THURSTONE TEST OF MENTAL ALERTNESS

| Score | $r_{xy}$ | SE $r_{xy}$ |
|---|---|---|
| L-Score | —.20 | .11 |
| Q-Score | —.19 | .01 |
| Total Score | —.25* | .11 |

* Significant at .05 level—68df (2)

ment with most of the previous studies of relationships between intelligence and humor. The type of intelligence test used may enter into the appearance of such slight relationships.

In regard to the Raley test, perhaps the most interesting aspect of the experiment was the evidence that this test is quite easily administered and adapted to individual presentation and scoring. The distribution of the test scores in this study would seem to support the hypothesis that humor, as many other personality traits, is approximately normally distributed, as the chi square to test for normality of distribution yielded a value of 1.48 as compared to a value of 15.09 (5df) necessary for significance of lack of normality in this sample.

It may very well be that a sense of humor such as is measured by the Raley Cartoon Test is a relatively unique trait and quite independent of intellectual factors such as those measured by the Thurstone Test of Mental Alertness. A possible explanation of the negative findings in relation to intelligence is that, since the cartoons chosen had been selected by adolescent *Ss* who were similar to the sample used in the present study, the intellectual aspects of seeing the point of the cartoons were well within the *Ss*' intellectual level and presented no intellectual challenge to the group tested. Perhaps if the test were presented to younger children, stronger relationships to intellectual factors might have been found.

From the results of this one experiment, it appears that humor as measured by the Raley Cartoon Test is not related to intelligence as measured by the Thurstone Test of Mental Alertness. These findings, however, cannot be generalized to conclude that no relationships exist between sense of humor and intelligence; other studies, using different instruments to measure sense of humor and intelligence with varied populations would have to be attempted before such conclusions could be made.

## D. SUMMARY

The relation of humor (as measured by the Raley Cartoon Test) to intelligence (as measured by the Thurstone Test of Mental Alertness) was

examined. *Ss* were 70 freshmen high school girls, all within a one-year age range. The only significant correlation was a —.25 with Total Score—Thurstone Test of Mental Alertness.

These results do not agree with previous studies made on the relationships between humor and intelligence. Possible explanations as to this discrepancy may be that the Raley Cartoon Test is a more exact test of sense of humor than previous tests, less influenced by intelligence. This disagreement with previous experimental results may also be due to the variety of procedures utilized as measurements of intelligence and humor in other studies. The relations of the Raley test with other types of intelligence tests should be studied. In regard to the relation of sense of humor and intelligence, possibly an intelligence test that relied less on scholastic aptitude and more on insight into meaningful wholes, or perception of relations would be necessary to give a positive correlation between intelligence and humor.

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# ON THE RELATIONSHIP BETWEEN MANIC-DEPRESSIVE PSYCHOSIS AND INNER-DIRECTED CHARACTER*

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## A. INTRODUCTION

It has recently been stated by Arieti[1] that there may be a relationship between the incidence of manic-depressive psychosis and the type of character and culture which has been termed inner-directed by Riesman (11). According to Arieti (2), an inner-directed culture, "is much more liable to elicit a family configuration and interpersonal conflicts which are generally those which lead to manic-depressive psychosis." Arieti bases this hypothesis on the decreased incidence of patients diagnosed as manic-depressive in those cultures where inner-direction is being replaced by other-direction. In further support of this hypothesis, he cites a continued high incidence of patients diagnosed as manic-depressive among sub-cultures which have remained predominantly inner-directed such as the Hutterite society in the United States[2] which is termed by Arieti (2), ". . . a typically inner-directed one."

## B. PURPOSE

The purpose of this paper is to point out: (*a*) that Arieti has implicitly linked manic-depressive psychosis to two distinct subtypes of inner-direction which differ in several easily overlooked but important respects; (*b*) that there are significant aspects of manic-depressive character which also appear to be typical of Riesman's other-directed character type; and (*c*) that the character structure of the manic-depressive may reflect an unsuccessful resolution of conflicts associated with the coexistence within a culture of forces producing *both* inner-direction and other-direction.

* Received in the Editorial Office on June 24, 1960.

[1] The present paper is based upon a manuscript of an original paper presented by Dr. Arieti at the 1957 annual meeting of the American Psychiatric Association (2). Dr. Arieti's 1957 paper has been subsequently incorporated into his chapter on manic-depressive psychosis *In* Arieti, S. (*Ed.*), *American Handbook of Psychiatry*. New York: Basic Books, Inc., 1959, I, 419-455.

[2] It should be noted that Kramer (8) has suggested that, "lifetime prevalence rate" employed as an index of incidence in the Hutterite study, "is an inappropriate one to use if the focus of the research is to determine the influence of culture on the rate at which mental disease occurs."

### C. Discussion

With regard to the first point, Riesman has stated that, "The concept of inner-direction is intended to cover a very wide range of types" (11, p. 30), and he has explicitly acknowledged the potential importance of a number of subtypes. Arieti appears to have linked manic-depressive psychosis to both the Hutterite subtype of inner-direction and to that subtype of inner-direction which once prevailed in the United States but which is now being replaced by other-direction. The latter type of inner-direction which has characterized white, Protestant America has stressed the need for the individual to, ". . . live up to ideals and to test his ability to be on his own by continuous experiments in self-mastery—instead of by following tradition" (11, p. 59). This variety of inner-direction appears to differ considerably from that indicated by Eaton and Weil's observation that the Hutterite culture is dominated by an absolute value system brooking no major deviations and strongly encouraging the maintenance of the status quo (6). Also, the typical inner-directed person in the United States has been relatively independent of the need for others' guidance and approval (11, p. 48), and has been made to feel that, ". . . he matters as an individual apart from his family or clan" (11, p. 62). Among the Hutterites, on the other hand, there is a conscious effort to, "break the child's will" (6, p. 106), and the needs of the group take precedence over those of the individual. While striking parallels have been noted between the socialization process of the manic-depressive and the Hutterite by Arieti and others (6, p. 88), these similarities rest largely upon aspects of Hutterite culture which are atypical of the type of inner-direction which has prevailed in the United States. The fact that Arieti has implicitly linked manic-depressive psychoses to two types of inner-direction which differ markedly in several important respects does not necessarily invalidate an hypothesis that manic-depressive character is a product of inner-directed culture, but is does indicate that a more detailed specification of the nature of such a relationship is required.

As regards the second point relating to the other-directed aspects of manic-depressive character, Riesman (11, p. 37) states that, "What is common to all other-directed people is that their contemporaries are the source of direction for the individual." This orientation appears similar to that ascribed by Arieti (2) to manic-depressives when he notes their, ". . . necessity to please others and to act in accordance with the expectations of others . . ." Also, according to Riesman the other-directed personality lacks an internalized code of behavior. The goals toward which such persons strive are those which gain the approval of the peer group (11, p. 37). Cohen *et al.*

(4, p. 114) have noted that the *parents* of manic-depressives seemed to have values that are, "feebly held and poorly conceptualized," and that, consequently, the pre-manic-depressive child was taught rigid conformance to the parents' notion of, "what the neighbors think proper." While it is not our contention that the manic-depressive is other-directed, it seems apparent that these patients do possess a number of characteristics which resemble the other-directed personality type.

With respect to the final point, the transformation of a society from inner to other-direction requires the individual, according to Riesman (11, p. 103), to, ". . . rechannel the competitive drive for achievement, as demanded by the parent, into his need for approval from his peers." The conflict between the manic-depressive's competitive need for success and his fear lest he lose the approval of his peers by differing from them or outcompeting them (4, p. 117-119) seems to resemble closely Riesman's description of the conflicts induced by a culture undergoing transition from inner to other-direction. It might be speculated that manic-depressive illness results in part from the inability to resolve such conflict which appears to be rooted in the seriously impaired capacity for gratifying either the inner- or other-directed needs of the manic-depressive. The manic-depressive has apparently introjected certain aspects of the inner-directed's need for mastery of his environment, but seems to lack the inner-directed's well internalized self-reliance. His other-directed dependence on, "what the neighbors think proper" appears to be difficult to satisfy because of his social imperceptiveness and insensitivity to interpersonal subtleties (4, p. 119-120). It would appear that the manic-depressive has neither the stability afforded by the inner-directed's "gyroscope" nor the adaptability of the other-directed's "radar scanning mechanism."

## D. Conclusions

The present authors concur with Arieti's view that Riesman's sociological types may stimulate useful working hypotheses about manic-depressive psychosis. But whereas Arieti advances the notion that the inner-directed culture elicits the conflicts which lead to manic-depressive psychosis, the present authors suggest the alternative hypothesis that it may be the co-existence within a culture of both inner- and other-direction which has this effect. The statistical data cited by Arieti would appear to be equally consistent with either hypothesis: the presence in manic-depressives of maladaptive mechanisms typical of *both* inner-directed and other-directed personality types seems more consistent with the latter hypothesis. The character structure of the manic-depressive appears to reflect the unsuccessful resolution of conflicts

associated with the stresses of a culture undergoing a transition from inner- to other-direction. There are, however, many methodological problems inherent in an empirical test of either hypothesis or in differential tests between the two hypotheses. This is principally due to the fact that Riesman's personality types lack operational specificity and have not therefore been readily susceptible to extensive experimental validation. The potental value of linking a psychopathological character type to one derived from socio-psychological investigations is that the latter may have a wide range of experimentally-verified correlates which suggest testable hypotheses about the nature and genesis of the psychopathological type. Examples of an attempt to link manic-depressive character to objective operationally-defined personality types are recent studies (3, 10) in which the attitudes and performance of manic-depressives were found to resemble those of the "value-achiever" (5) and the "authoritarian personality" (1). Since many of the experimentally determined correlates of the authoritarian personality (1, 9, 12, 13) are similar to those which have been clinically ascribed to manic-depressives (2, 4, 7), it would seem potentially rewarding to further investigate these apparent similarities. Explication of manic-depressive character within the framework of Riesman's character types might better await the latter's further development.

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# PERSONALITY CHARACTERISTICS ATTRIBUTED TO THE WORKER*

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## A. INTRODUCTION

It would take a national cultural upheaval of great intensity to counteract many of the preconceived images about people and groups which are reinforced daily via the proliferating network of mass communication. Once they have become sufficiently popularized, these images often lead an autonomous existence. They are not checked for "goodness of fit," nor are they evaluated against a reality situation. The myth becomes reality; the reality becomes the exception.

While many studies have been reported on the images of various ethnic groups, few have essayed an analysis of the personality characteristics attributed to various occupational groups. It is towards this end that the present study addresses itself.

A recent unpublished paper (3), based on a sampling of a college population, reveals that differentiated images of the personalities and life styles of people in various "high-level" occupations do exist. But "low-level" occupations, the members of which comprise the majority of the population, are not treated in this survey.

In a study dealing with impressions of the personality of a "low-level" occupational group (workers[2]), Haire and Grunes (7) discovered that great difficulty was experienced among the respondents (a college sample) who were told to view the worker as "intelligent," among other descriptive attributes. Such an asset could not fit into the students' preconception of the occupational category and they offered a range of rationalizations to explain away what was to them an incongruity.

In an early study Osgood and Stagner (9) discovered that college students assign such positive characteristics as having brains, leadership, excitingness and self assuredness to prestige occupations, at the same time that low level

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[1] The assistance of Mildred Kaye of The City College, in the statistical work for this report, is gratefully acknowledged.
[2] The terms "worker," "lower class," "working class," "low-level" occupational group are used interchangeably in the present article.

occupations are seen as showing the positive characteristics of kindness, idealism, and congeniality. However, the authors conclude that, in general, students are prone to rate high level occupations high in all personality characteristics.

Other than these three papers, the literature does not seem to yield further material in the area. Somewhat relevant studies, however, have appeared concerning the middle class bias which affects the interpretation of intelligence and projective tests administered to members of the lower classes (6, 11). More numerous are studies which concern themselves with images of national and ethnic groups.

One of the earliest was made by Katz and Braly (8). Presented with a prepared list of 84 traits, 100 Princeton students checked those which they considered most characteristic of each of ten national groups. Among other generalizations, they found the Germans most scientific and industrious, the Turks most cruel and treacherous, the Jews most shrewd and mercenary, the Negroes most superstitious and lazy.

Gilbert (5) conducted the same experiment with a new batch of Princetonians. There were some shifts, but the stereotypes persisted. The characteristics most frequently ascribed to each group were approximately the same, but a smaller proportion of students checked them. The Germans were still pictured as before, but higher among their ratings appeared such traits as extremely nationalistic, aggressive, and arrogant.

Allport and Postman (1) demonstrated that a student's perception of objective phenomena could be distorted to correspond to a previously formed stereotype about a minority. In a picture which showed a Negro and a white man standing together in a subway, an open razor depicted as resting in the belt of the white man, "traveled" to the belt of the Negro in the responses of over half of the subjects of the experiment.

Razran (10) reports that photographs of girls judged as to beauty, intelligence and other personality traits, underwent considerable change in rating when, two months later, the same group of college students were presented with the same set of photographs, but with racial surnames (e.g., Jewish, Italian, Irish) attached to them.

Ethnic and racial stereotypes have most often been "explained" by a natural response of distrust for what is foreign or unlike ourselves. Recognizing the validity of the existence of national characteristics, a UNESCO study done in 1948-49 (4) reported that respondents in each of nine countries always saw their own national self-image as possessing more positive characteristics than nations of markedly differing cultures. Similarly, a heavy

burden of negative characteristics is most often attributed to "alien" minority groups within a country.

This dynamic can readily be recognized in the attitudes in the United States toward such national minority groups as the Oriental, or more recently the Puerto Rican. Of interest, then, would be the attitudes prevalent concerning an indigenous majority group: the working class. The present investigation centers its concern in this area.

## B. Procedure

It was the hypothesis of this study that persons in higher occupational categories would be rated more positively in personality characteristics than persons in the lower occupational groups. Asch's technique (2) for obtaining impressions of personality was adapted to test the hypothesis. Given the identical brief personality sketch of individuals who differ only with respect to occupational status, how will the perception of their personalities differ?

The subjects of this study were 241 undergraduate students, male and female, attending classes in psychology and education at The City College, Bard College, and Fairleigh-Dickinson. They ranged in age from about 17 to 20 years old. They varied in social class background, some having fathers in unskilled occupations and others fathers at the top level of the social scale.

A checklist of 30 personality characteristics was used to determine the pictures (or images or stereotypes) in the minds of students with regard to selected occupational groups. The five occupational groups studied were:

> *Factory Owner, Factory Worker, Assistant Office Manager, Teacher,* and *Physician.*

These groups differ with respect to the position they hold in the class hierarchy in our society; with respect to the training required; with respect to the monetary rewards received, and undoubtedly in other ways.

Before checking the list of characteristics, the students were asked to give a brief personality description of the individual who was described as follows:

> *This man is said to be Active, Happy, Aggressive, Strong, Talkative,* and *Spontaneous. He is a Factory Owner* (or *a Factory Worker,* or *an Assistant Office Manager,* or *a Teacher,* or *a Physician*) *in a large city. He is 30 years old and of average height. He likes to go to the movies.*

Asking the students to write a brief description in this way forced them to formulate a picture of this person in their minds. They were then asked to rate the person they had just described on 30 personality characteristics (see

Table 1). They were required to indicate to what extent the person possessed each one of the characteristics, whether "to a great extent," or "to some extent" or "to no extent."

The five forms of the checklist were used in 10 classrooms. The forms were systematically varied so that in any one class, at least three different occupational groups were represented among the forms distributed. In each class, there were about 20 to 30 students. In this manner, the respondents to each of the five forms were randomly selected from the sample at hand.

A numerical score for each word was obtained by assigning a weight of two to "great extent," a one to "some extent" and 0 to "no extent." Consider the group (*Factory Owner*) and the word *Industrious*. Forty-seven people responded to this word: 37 of whom checked "great extent"; eight checked "some extent"; and two "no extent"—the total score therefore is $37 \times 2$ plus $8 \times 1$, plus $0 \times 2$ which equals 82 or a mean of 1.74. This procedure was followed for all groups for all 30 words. The means are shown in Table 1. The F test was used as a measure of significance and also is shown in the table.

## C. Results

The groups differed significantly in twelve of the thirty characteristics. Positive characteristics: industrious, practical, thoughtful, serious, polite, confident, cautious, intelligent, were distributed about equally among the factory owner, assistant office manager, teacher and physician. The worker emerged as having the lowest mean score for all these qualities. More negative characteristics were attributed to factory workers than to any of the other occupational groups. There were some exceptions where the worker was seen more positively (e.g., warm) and less negatively (e.g., less selfish). Among the 12 characteristics having statistical significance, only two positive, and the remainder, the most negative positions are ascribed to the worker. Only in the case of the factory worker was there such a totality of extreme (the most, the least) responses. These results are further confirmed by an examination of the means for these characteristics ascribed to the five groups but of no statistical significance. For example, the worker is most excitable, least reliable, least wise, most unstable, most frivolous, most blunt and most easy-going.

## D. Conclusion

A number of issues arise upon examination of these findings. It seems fairly clear that the *S*s, many of whom are prospective teachers, psychologists and social workers, have definite images of the lower class, and these images

TABLE 1

THE MEAN RATINGS FOR EACH OCCUPATIONAL GROUP FOR THE THIRTY PERSONALITY CHARACTERISTICS
(Divided According to Statistical Significance)

| Personality characteristic | Factory owner (N 47)* | Factory worker (N 49) | Asst. office manager (N 49) | Teacher (N 51) | Physician (N 45) | F ratio | p |
|---|---|---|---|---|---|---|---|
| Industrious | 1.74** | 1.32 | 1.69 | 1.47 | 1.66 | 5.13 | <.01 |
| Practical | 1.42 | 1.20 | 1.24 | 1.27 | 1.42 | 5.00 | <.01 |
| Impulsive | 1.08 | 1.35 | 1.22 | 1.37 | 1.00 | 2.95 | <.05 |
| Thoughtful | 1.08 | 0.95 | 1.14 | 1.33 | 0.97 | 3.02 | <.05 |
| Serious | 1.12 | 0.87 | 0.97 | 1.15 | 1.28 | 3.55 | <.01 |
| Warm | 1.27 | 1.73 | 1.36 | 1.45 | 1.48 | 5.50 | <.01 |
| Polite | 1.27 | 1.08 | 1.40 | 1.35 | 1.35 | 2.54 | <.05 |
| Confident | 1.78 | 1.46 | 1.75 | 1.70 | 1.66 | 2.55 | <.05 |
| Cautious | 1.10 | 0.87 | 1.14 | 0.90 | 1.00 | 2.86 | <.05 |
| Honest | 1.12 | 1.51 | 1.18 | 1.47 | 1.77 | 20.57 | <.001 |
| Selfish | 1.02 | 0.67 | 1.14 | 0.78 | 0.80 | 7.09 | <.01 |
| Intelligent | 1.34 | 1.00 | 1.30 | 1.35 | 1.51 | 7.55 | <.01 |
| Reliable | 1.44 | 1.34 | 1.59 | 1.41 | 1.48 | 1.21 | N.S. |
| Generous | 1.14 | 1.30 | 1.24 | 1.25 | 1.17 | 0.56 | N.S. |
| Good looking | 1.27 | 1.20 | 1.34 | 1.11 | 1.31 | 1.41 | N.S. |
| Excitable | 1.25 | 1.46 | 1.32 | 1.41 | 1.15 | 1.80 | N.S. |
| Considerate | 1.21 | 1.30 | 1.22 | 1.23 | 1.24 | 0.18 | N.S. |
| Sensitive | 0.82 | 0.85 | 0.97 | 1.09 | 1.08 | 1.96 | N.S. |
| Self-centered | 1.23 | 0.93 | 1.22 | 1.19 | 1.26 | 2.12 | N.S. |
| Irritable | 0.91 | 0.91 | 0.83 | 0.84 | 0.82 | 0.29 | N.S. |
| Wise | 1.02 | 0.83 | 0.95 | 1.05 | 1.06 | 1.72 | N.S. |
| Unstable | 0.42 | 0.71 | 0.46 | 0.56 | 0.48 | 1.47 | N.S. |
| Masculine | 1.78 | 1.83 | 1.69 | 1.68 | 1.62 | 1.47 | N.S. |
| Frivolous | 0.61 | 0.75 | 0.71 | 0.74 | 0.71 | 0.29 | N.S. |
| Popular | 1.63 | 1.53 | 1.63 | 1.52 | 1.62 | 0.48 | N.S. |
| Cold | 0.42 | 0.30 | 0.26 | 0.31 | 0.26 | 0.79 | N.S. |
| Friendly | 1.70 | 1.91 | 1.77 | 1.80 | 1.71 | 1.96 | N.S. |
| Interested in sex | 1.36 | 1.38 | 1.38 | 1.31 | 1.42 | 0.26 | N.S. |
| Blunt | 1.17 | 1.28 | 0.95 | 1.19 | 1.26 | 1.90 | N.S. |
| Easy-going | 1.02 | 1.30 | 1.08 | 1.07 | 1.20 | 1.36 | N.S. |

* The number of students responding to each occupational group.
** The possible range is from 0.0 ("to no extent") to 2.0 ("to a great extent").

are for the most part decidedly unfavorable. While it is possible that some of these images may have a degree of accuracy, it is equally possible that the subjects have formed these images inaccurately. To date, no scientific evidence has been produced to support the negative stereotype of "low-level" occupational groups.

There is no objection to people forming generalizations about workers, or any other group, so long as these generalizations are founded on scientific evidence, and provided that they are then applied flexibly in individual cases. Such an approach is necessary whether the positive characteristic of "confident"

is ascribed to the factory owner or the negative characteristic of "unintelligent" is attributed to the factory worker.

With regard to the school system the consequences that arise from acceptance of a negative image of the worker are serious. Many of the current difficulties of the educational system, poor discipline, insufficient academic motivation, inadequate reading ability, stem in part from the attitude of the teachers toward their pupils, the majority of whom are children of workers.

How can the teacher fulfill his task of educating a worker's child when he places a low value on the parent? The existence of so negative an image as emerges from this study holds many implications for the sociologist and psychologist as well as the educator.

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# COLLEGE STUDENTS' CONCEPTS OF PSYCHOLOGISTS AND PSYCHIATRISTS: A PROBLEM IN DIFFERENTIATION*

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## A. INTRODUCTION AND PROBLEM

The image of the psychologist and psychiatrist has been of concern to the members of the two disciplines. Dissatisfaction has been expressed frequently with the distorted picture the public has of them and their functions and training. Tallent and Reiss (3) constructed a 33 item form which attempted to evaluate the public's image of psychologists and psychiatrists. The results of administering their form to 143 evening students enrolled in courses other than psychology were indicative of continuing gaps in the public's concept of them.

How closely are knowledge and psychology course work related to college students' ability to differentiate the function and background of psychologists and psychiatrists? In connection with preliminary discussions of psychology and psychologists in a fundamental psychology course with undergraduates the form of Tallent and Reiss came to hand. It seemed opportune to have these beginners in psychology test themselves on the accuracy of their delineation of the image or role of the two professions. Subsequently, the students became interested in how others would react to this form. To encourage them to wet their feet in research the form of Tallent and Reiss was mimeographed and given to the students. They were urged to question other college students and their friends on the same form.

## B. METHOD

One hundred and thirty-seven questionnaire forms were returned completed. In order to parallel more closely the conditions of the original research, a mimeographed page was given to the student pollsters. This mimeographed page cited a passage to be read to each respondent which contained the same orientation used by the original authors with their groups. The responders were to check which of the items pertained to: psychologists, psychiatrists, both, or neither, or indicate that they did not know. Because the form had been administered originally to groups presumed

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to be unexposed to psychology courses, the student examiners were to ask all respondents how many psychology courses they had taken; or whether they had any work-experience in psychological or psychiatric settings.

Unlike Tallent and Reiss' work, the respondents in this investigation could answer that a particular item was shared by both psychologists and psychiatrists. This question had been part of the authors' original orientation, but their data were not broken down into responses in this category. To what degree the differences between this study and the originators' can be attributed to this difference in presentation of data is unknown.

### C. Results and Discussion

In general, there was little or no difference in the accuracy of the concept of the psychologist and psychiatrist role to be found in the responses of college students with and without college courses or work experience in psychology in the present investigation.

Like Tallent and Reiss' study the overlap of psychological and psychiatric role was most pronounced in the first two items, namely; both systematically study the behavior of people, and both work with children. These two items were the only instances where over 50 per cent of the respondents related the content of the item to both psychologists and psychiatrists.

Greater knowledge of the difference in academic backgrounds of psychologist and psychiatrists was shown in the present study: 56 per cent thought the psychiatrist would be an M.D. as against 11 per cent for the psychologist being an M.D.; but just about the same number (26 per cent) thought that the psychologist would have a Ph.D, as thought the psychiatrist (29 per cent) would. The 21st item "is a doctor" which might be misinterpreted as either Ph.D or M.D. was evidently thought of in the latter context, since about the same number attributed this item to psychiatrists as did Item 26 "has an M.D. degree."

The most popular concept of psychiatrist was: a professional practitioner (48 per cent), practising psychoanalysis (56 per cent), working with the insane (55 per cent), and the mental and emotional problems of people through talking to them (45 per cent).

The tools or treatment methods of psychiatrist in the present group's interpretation are: hypnosis (61 per cent), couch (58 per cent), shock therapy (71 per cent), drugs (53 per cent), and brain surgery (45 per cent).

Unlike the results of the previous study, most of the present subjects understood that the psychiatrist would be a medical specialist (65 per cent

PUBLIC CONCEPT OF PSYCHOLOGY AND PSYCHIATRY

| Item | Psy. | (X) P'ts. | Both | Neither | DK |
|---|---|---|---|---|---|
| 1. Systematically studies the behavior of people. | 84 | 43 | | 0 | 3 |
| 2. Works with children. | 83 | 66 | | 4 | 2 |
| 3. Devises methods to measure intelligence and personality. | 83 | 16 | | 3 | 7 |
| 4. Develops techniques for determining employee skills and efficiencies. | 78 | 10 | | 8 | 6 |
| 5. Examines intelligence. | 77 | 31 | | 6 | 3 |
| 6. Is a teacher. | 76 | 30 | | 17 | 6 |
| 7. Systematically studies the personality of people. | 75 | 40 | | 6 | 3 |
| 8. Studies how various techniques of advertising influence consumers to buy goods. | 74 | 2 | | 17 | 8 |
| 9. Assists students in selecting a vocation. | 74 | 6 | | 16 | 7 |
| 10. Is a scientist and does research. | 72 | 34 | | 17 | 4 |
| 11. Investigates different methods of teaching reading to decide which is best. | 71 | 1 | | 22 | 7 |
| 12. Has a Ph.D. degree. | 61 | 38 | | 12 | 13 |
| 13. Systematically studies the behavior of animals. | 57 | 16 | | 27 | 10 |
| 14. Give tests in order to probe into the unconscious mind. | 54 | 67 | | 3 | 2 |
| 15. Investigates the tensions between nations which might lead to war. | 52 | 7 | | 38 | 8 |
| 16. Collaborates with engineers in the design of equipment. | 41 | 9 | | 50 | 5 |
| 17. Tells people what to do in order to become more popular. | 41 | 20 | | 39 | 7 |
| 18. Is trained primarily as one who practices a profession (practitioner). | 38 | 87 | | 3 | 1 |
| 19. Studies how surgical removal of various parts of the brain influences human behavior. | 38 | 51 | | 19 | 7 |
| 20. Practices psychoanalysis. | 35 | 73 | | 3 | 3 |
| 21. Works with insane people. | 35 | 85 | | 6 | 3 |
| 22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems. | 34 | 89 | | 1 | 0 |
| 23. Is a doctor. | 33 | 87 | | 6 | 1 |
| 24. Uses hypnosis in his work. | 23 | 62 | | 15 | 8 |
| 25. Examines people to find out if they are insane. | 17 | 84 | | 6 | 3 |
| 26. Has an M.D. degree. | 15 | 70 | | 15 | 8 |
| 27. Uses a couch in his profession. | 12 | 80 | | 8 | 8 |
| 28. Does physical examinations. | 8 | 38 | | 51 | 6 |
| 29. Gives shock therapy to mentally ill patients. | 8 | 78 | | 14 | 3 |
| 30. Is a medical specialist. | 8 | 67 | | 24 | 4 |
| 31. Administers drugs in order to calm down nervous people. | 3 | 63 | | 33 | 3 |
| 32. Is a professional mind reader. | 3 | 8 | | 83 | 2 |
| 33. Is able to foretell the future. | 3 | 3 | | 94 | 2 |

PUBLIC CONCEPT OF PSYCHOLOGY AND PSYCHIATRY
TOTAL N = 137

| Item | Psy. | (X) P'ts. | Both | Neither | DK |
|---|---|---|---|---|---|
| 1. Systematically studies the behavior of people. | 48 | 17 | 70 | 1 | 1 |
| 2. Works with children. | 24 | 11 | 93 | 7 | 2 |
| 3. Divides methods to measure intelligence and personality. | 89 | 18 | 17 | 8 | 5 |
| 4. Develops techniques for determining employee skills and efficiencies. | 73 | 10 | 14 | 31 | 9 |
| 5. Examines intelligence. | 60 | 12 | 42 | 17 | 6 |
| 6. Is a teacher. | 52 | 7 | 34 | 30 | 14 |
| 7. Systematically studies the personality of people. | 42 | 30 | 55 | 7 | 3 |
| 8. Studies how various techniques of advertising influence consumers to buy goods. | 61 | 15 | 22 | 29 | 10 |
| 9. Assists students in selecting a vocation. | 75 | 9 | 14 | 33 | 6 |
| 10. Is a scientist and does research. | 23 | 24 | 51 | 22 | 17 |
| 11. Investigates different methods of teaching reading to decide which is best. | 63 | 5 | 9 | 29 | 19 |
| 12. Has a Ph.D. degree. | 30 | 40 | 43 | 13 | 12 |
| 13. Systematically studies the behavior of animals. | 47 | 17 | 24 | 35 | 12 |
| 14. Give tests in order to probe into the unconscious mind. | 13 | 67 | 41 | 12 | 5 |
| 15. Investigates the tensions between nations which might lead to war. | 48 | 5 | 13 | 64 | 8 |
| 16. Collaborates with engineers in the design of equipment. | 35 | 6 | 15 | 68 | 14 |
| 17. Tells people what to do in order to become more popular. | 31 | 20 | 26 | 49 | 11 |
| 18. Is trained primarily as one who practices a profession (practitioner). | 5 | 66 | 42 | 13 | 12 |
| 19. Studies how surgical removal of various parts of the brain influences human behavior. | 12 | 62 | 26 | 22 | 16 |
| 20. Practices psychoanalysis. | 15 | 77 | 27 | 8 | 10 |
| 21. Works with insane people. | 5 | 75 | 45 | 10 | 5 |
| 22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems. | 15 | 62 | 53 | 6 | 2 |
| 23. Is a doctor. | 4 | 105 | 21 | 5 | 4 |
| 24. Uses hypnosis in his work. | 12 | 83 | 27 | 13 | 10 |
| 25. Examines people to find out if they are insane. | 10 | 95 | 20 | 10 | 2 |
| 26. Has an M.D. degree. | 6 | 98 | 9 | 13 | 12 |
| 27. Uses a couch in his profession. | 6 | 80 | 22 | 25 | 6 |
| 28. Does physical examinations. | 0 | 64 | 13 | 48 | 12 |
| 29. Gives shock therapy to mentally ill patients. | 5 | 97 | 10 | 18 | 7 |
| 30. Is a medical specialist. | 5 | 89 | 6 | 22 | 8 |
| 31. Administers drugs in order to calm down nervous people. | 3 | 72 | 14 | 40 | 8 |
| 32. Is a professional mind reader. | 1 | 7 | 3 | 120 | 6 |
| 33. Is able to foretell the future. | 0 | 0 | 1 | 132 | 4 |

PUBLIC CONCEPT OF PSYCHOLOGY AND PSYCHIATRY
EXPERIENCE N = 43

| Item | Psy. | (X) P'ts. | Both | Neither | DK |
|---|---|---|---|---|---|
| 1. Systematically studies the behavior of people. | 10 | 1 | 32 | 0 | 0 |
| 2. Works with children. | 5 | 5 | 32 | 1 | 0 |
| 3. Divises methods to measure intelligence and personality. | 31 | 5 | 6 | 1 | 0 |
| 4. Develops techniques for determining employee skills and efficiencies. | 25 | 4 | 4 | 7 | 2 |
| 5. Examines intelligence. | 19 | 5 | 16 | 3 | 2 |
| 6. Is a teacher. | 15 | 0 | 13 | 12 | 2 |
| 7. Systematically studies the personality of people. | 14 | 4 | 22 | 2 | 0 |
| 8. Studies how various techniques of advertising influence consumers to buy goods. | 30 | 3 | 5 | 3 | 2 |
| 9. Assists students in selecting a vocation. | 28 | 4 | 3 | 6 | 2 |
| 10. Is a scientist and does research. | 8 | 16 | 19 | 5 | 4 |
| 11. Investigates different methods of teaching reading to decide which is best. | 31 | 0 | 1 | 7 | 4 |
| 12. Has a Ph.D. degree. | 13 | 13 | 11 | 5 | 2 |
| 13. Systematically studies the behavior of animals. | 15 | 6 | 13 | 8 | 1 |
| 14. Give tests in order to probe into the unconscious mind. | 6 | 20 | 14 | 3 | 0 |
| 15. Investigates the tensions between nations which might lead to war. | 21 | 3 | 1 | 17 | 1 |
| 16. Collaborates with engineers in the design of equipment. | 21 | 2 | 3 | 16 | 1 |
| 17. Tells people what to do in order to become more popular. | 11 | 6 | 8 | 16 | 2 |
| 18. Is trained primarily as one who practices a profession (practitioner). | 0 | 25 | 13 | 3 | 2 |
| 19. Studies how surgical removal of various parts of the brain influences human behavior. | 5 | 18 | 12 | 5 | 3 |
| 20. Practices psychoanalysis. | 2 | 24 | 10 | 0 | 6 |
| 21. Works with insane people. | 1 | 15 | 23 | 4 | 0 |
| 22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems. | 5 | 18 | 20 | 0 | 0 |
| 23. Is a doctor. | 2 | 36 | 3 | 1 | 1 |
| 24. Uses hypnosis in his work. | 2 | 26 | 9 | 2 | 4 |
| 25. Examines people to find out if they are insane. | 3 | 30 | 6 | 4 | 0 |
| 26. Has an M.D. degree. | 2 | 36 | 2 | 3 | 1 |
| 27. Uses a couch in his profession. | 1 | 25 | 7 | 10 | 0 |
| 28. Does physical examinations. | 0 | 27 | 3 | 14 | 0 |
| 29. Gives shock therapy to mentally ill patients. | 1 | 37 | 2 | 3 | 0 |
| 30. Is a medical specialist. | 1 | 35 | 0 | 7 | 0 |
| 31. Administers drugs in order to calm down nervous people. | 1 | 26 | 2 | 13 | 1 |
| 32. Is a professional mind reader. | 1 | 2 | 1 | 38 | 1 |
| 33. Is able to foretell the future. | 0 | 0 | 0 | 43 | 0 |

PUBLIC CONCEPT OF PSYCHOLOGY AND PSYCHIATRY
No Experience N = 43

| Item | Psy. | (X) P'ts. | Both | Neither | DK |
|---|---|---|---|---|---|
| 1. Systematically studies the behavior of people. | 19 | 8 | 14 | 1 | 0 |
| 2. Works with children. | 9 | 3 | 27 | 3 | 0 |
| 3. Divises methods to measure intelligence and personality. | 32 | 5 | 2 | 2 | 1 |
| 4. Develops techniques for determining employee skills and efficiencies. | 21 | 2 | 4 | 13 | 2 |
| 5. Examines intelligence. | 23 | 2 | 9 | 6 | 2 |
| 6. Is a teacher. | 14 | 3 | 11 | 9 | 5 |
| 7. Systematically studies the personality of people. | 18 | 10 | 13 | 1 | 2 |
| 8. Studies how various techniques of advertising influence consumers to buy goods. | 8 | 9 | 15 | 8 | 2 |
| 9. Assists students in selecting a vocation. | 23 | 3 | 5 | 9 | 2 |
| 10. Is a scientist and does research. | 8 | 9 | 15 | 5 | 6 |
| 11. Investigates different methods of teaching reading to decide which is best. | 25 | 1 | 1 | 10 | 6 |
| 12. Has a Ph.D. degree. | 12 | 12 | 10 | 5 | 3 |
| 13. Systematically studies the behavior of animals. | 18 | 3 | 5 | 13 | 3 |
| 14. Give tests in order to probe into the unconscious mind. | 3 | 21 | 11 | 3 | 5 |
| 15. Investigates the tensions between nations which might lead to war. | 13 | 0 | 4 | 24 | 2 |
| 16. Collaborates with engineers in the design of equipment. | 7 | 0 | 6 | 25 | 5 |
| 17. Tells people what to do in order to become more popular. | 11 | 2 | 10 | 16 | 3 |
| 18. Is trained primarily as one who practices a profession (practitioner). | 2 | 24 | 11 | 4 | 3 |
| 19. Studies how surgical removal of various parts of the brain influences human behavior. | 3 | 22 | 7 | 7 | 4 |
| 20. Practices psychoanalysis. | 4 | 22 | 11 | 4 | 2 |
| 21. Works with insane people. | 2 | 29 | 9 | 2 | 0 |
| 22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems. | 4 | 24 | 13 | 2 | 0 |
| 23. Is a doctor. | 0 | 34 | 6 | 2 | 1 |
| 24. Uses hypnosis in his work. | 2 | 29 | 7 | 3 | 2 |
| 25. Examines people to find out if they are insane. | 1 | 32 | 6 | 3 | 1 |
| 26. Has an M.D. degree. | 0 | 28 | 3 | 5 | 6 |
| 27. Uses a couch in his profession. | 2 | 25 | 5 | 9 | 2 |
| 28. Does physical examinations. | 0 | 18 | 5 | 15 | 4 |
| 29. Gives shock therapy to mentally ill patients. | 0 | 33 | 1 | 7 | 1 |
| 30. Is a medical specialist. | 0 | 27 | 2 | 6 | 5 |
| 31. Administers drugs in order to calm down nervous people. | 0 | 22 | 5 | 11 | 4 |
| 32. Is a professional mind reader. | 0 | 4 | 0 | 35 | 3 |
| 33. Is able to foretell the future. | 0 | 0 | 1 | 39 | 2 |

PUBLIC CONCEPT OF PSYCHOLOGY AND PSYCHIATRY
No Information N = 52

| Item | Psy. | (X) P'ts. | Both | Neither | DK |
|---|---|---|---|---|---|
| 1. Systematically studies the behavior of people. | 19 | 8 | 24 | 0 | 1 |
| 2. Works with children. | 10 | 3 | 34 | 3 | 2 |
| 3. Devises methods to measure intelligence and personality. | 26 | 8 | 9 | 5 | 4 |
| 4. Develops techniques for determining employee skills and efficiencies. | 26 | 4 | 4 | 13 | 5 |
| 5. Examines intelligence. | 18 | 5 | 17 | 8 | 2 |
| 6. Is a teacher. | 13 | 2 | 8 | 23 | 6 |
| 7. Systematically studies the personality of people. | 10 | 16 | 20 | 4 | 2 |
| 8. Studies how various techniques of advertising influence consumers to buy goods. | 23 | 3 | 2 | 18 | 6 |
| 9. Assists students in selecting a vocation. | 24 | 2 | 5 | 18 | 2 |
| 10. Is a scientist and does research. | 7 | 9 | 17 | 12 | 7 |
| 11. Investigates different methods of teaching reading to decide which is best. | 20 | 4 | 7 | 12 | 9 |
| 12. Has a Ph.D. degree. | 5 | 15 | 22 | 3 | 7 |
| 13. Systematically studies the behavior of animals. | 14 | 8 | 6 | 14 | 8 |
| 14. Give tests in order to probe into the unconscious mind. | 4 | 26 | 16 | 6 | 0 |
| 15. Investigates the tensions between nations which might lead to war. | 14 | 2 | 8 | 23 | 5 |
| 16. Collaborates with engineers in the design of equipment. | 7 | 4 | 6 | 27 | 8 |
| 17. Tells people what to do in order to become more popular. | 9 | 12 | 8 | 17 | 6 |
| 18. Is trained primarily as one who practices a profession (practitioner). | 3 | 17 | 18 | 6 | 7 |
| 19. Studies how surgical removal of various parts of the brain influences human behavior. | 4 | 22 | 7 | 10 | 9 |
| 20. Practices psychoanalysis. | 9 | 31 | 6 | 4 | 2 |
| 21. Works with insane people. | 2 | 31 | 13 | 4 | 1 |
| 22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems. | 6 | 20 | 20 | 4 | 2 |
| 23. Is a doctor. | 2 | 35 | 12 | 2 | 2 |
| 24. Uses hypnosis in his work. | 8 | 23 | 11 | 8 | 2 |
| 25. Examines people to find out if they are insane. | 6 | 33 | 8 | 3 | 1 |
| 26. Has an M.D. degree. | 4 | 34 | 4 | 5 | 5 |
| 27. Uses a couch in his profession. | 3 | 30 | 9 | 6 | 4 |
| 28. Does physical examinations. | 0 | 19 | 5 | 19 | 8 |
| 29. Gives shock therapy to mentally ill patients. | 4 | 27 | 7 | 8 | 6 |
| 30. Is a medical specialist. | 2 | 27 | 4 | 9 | 3 |
| 31. Administers drugs in order to calm down nervous people. | 2 | 24 | 7 | 16 | 3 |
| 32. Is a professional mind reader. | 0 | 1 | 2 | 47 | 2 |
| 33. Is able to foretell the future. | 0 | 0 | 0 | 50 | 2 |

vs. 47 per cent), and would do physical examinations (47 per cent vs. 27 per cent). The subjects of the present study thought (49 per cent) that the psychiatrist would use tests to explore the unconscious, but only 9 per cent considered this the function of the psychologist.

The college students' concept of a psychologist is: one who devises methods for measuring intelligence and personality (65 per cent); tests workers skills and efficiency (53 per cent); and is a vocational counselor to students (55 per cent). The psychologist, as herein pictured, administers tests in examination of intelligence (44 per cent) and personality. He does research in teaching and reading methods (46 per cent) and is a teacher (38 per cent). Finally, the psychologist is employed in development of advertising techniques (45 per cent) and less often in research with animals (34 per cent), or in human engineering (26 per cent). Perhaps, most embarrassing, too few respondents considered the psychologist as a scientist doing research (17 per cent). The unconscious mind (9 per cent) and emotional problems of people seem to be considered beyond his functions (11 per cent).

Among a college student population improved appreciation of the different academic preparations of psychologist and psychiatrists was evident. The students visualized the psychologist almost entirely in work with groups: workers, students, or in advertising, or as a psychometrician. There was little appreciation of him in private practice, or in work with the insane or disturbed.

## D. Summary

Some reasonably accurate delineations of the role and background of psychiatrist and psychologist emerge from testing a group of college students, but there are strange overlaps of the two, and prominent functions of the psychologist, especially, are denied to him.

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# APPEARANCE AND REALITY IN CULTURE*

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## A. RESPONSIBILITY IN THE SOCIAL SCIENCES

Recently, reprinted as an editorial in *Science* (6), some timely views were expressed by a representative of the Carnegie Corporation. These views essentially raised the following points, namely that the image of *The Ugly American* ". . . is not true in general, and is not true specifically of the university people . . ."; however, this was ". . . not to say that no mistakes had been made," but ". . . fortunately, the mistakes to date had not been major ones . . ."; that "the people involved in the international activities of the colleges and universities are men and women committed to professional standards. They are not sentimentalists who imagine that an amiable preference for international understanding will be sufficient to achieve the goals they have in mind."

Such views are of great importance in terms of their general validity, as well as in the context of the issues that this article has been written to examine. The above quotations have raised the issue of whether in fact we do not harbor *The Ugly American,* but in the social sciences; and if "perverse judgments" on a culture cannot be most harmful, both for science and international relations. There would not be necessitated such an examination of issues with regard to any one investigation, but is the case when a particular study, due to certain factors, can influence serious and far-reaching policy decisions that pertain to national development, technical assistance, and educational exchange programs.

That cross-cultural studies are invaluable for many reasons is well recognized; for example, they may lead to theoretical implications of interest to science in general; towards an understanding of "strategies of adjustment" or the process of cultural diffusion; in determining the role of cultural antecedents in fostering specific attitudes and opinions; illuminating the

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problems that arise out of cultural cross-fertilization; bringing to focus, that scientific preferences in an approach or a discipline may be a function of cultural history. But it is of very questionable value, if not dangerous, when the authors are continuously apologetic for lack of control of significant variables without stating the reasons for such deficiencies, or remark that it is a pilot study, yet state that the study has far-reaching implications, and that administrators of exchange programs will find it a basis for better understanding, informative for evaluation and decisions as to policy (12). It is also the case when studies are carried out with an ignorance of the basic prerequisites of experimental design, and where the results do not merit the conclusions; where the major purpose is stated, but an important contributing factor towards the negation of this purpose (cross-cultural education) is not thought worthy of more than a passing comment. Valuable material is gathered by the study and is thereafter ignored because the authors state they do not know how to deal with it (i.e., data on personality variables). Furthermore, when material from co-studies in the same series is virtually ignored, either because the investigators did not consider it worthy of notice or chose to ignore the comparative approach in cross-cultural work, even while making statements about the integrity of a particular nation's intellectuals, neglecting the fact that any group of intellectuals may show similar behavior; then it is regrettable to say the least.

One might well question the statement that such a study as described above could have an impact upon academicians who are sophisticated in methodology, administrators of scientific foundations or State Department policies, who deal with educational exchange programs and foreign students. In reality it should not, however, in practice it does. Let us see why.

With the pressure of time that impinges upon a scientist, it is seldom that he can pay the price of examining in detail every scientific contribution unless essential for related scientific investigation. A closer look is sacrificed by the scientist, and more times than not the work is accepted, with reliance on extraneous factors influencing his judgment. This is even truer when the study has the backing of some very eminent organizations and organizers (not that they are responsible for the results), such as the Social Science Research Council's Committee on Cross-Cultural Education, Carnegie Corporation, Ford Foundation, and the Rockefeller Foundation. When to this is added the names of respected institutions, and a majority of reviews and comments of well known social scientists that are far from negative (3, 13, 18, 21) (with only some exceptions) (16, 23), then the study in question is

accepted into the literature, its suggestions put to use, and its basis rarely questioned.[2]

In the biological sciences certain standards have to be met, of objective scientific procedures, criteria of statistical reliability, and appropriate federal agencies (such as the FDA), before one can "peddle" an application. Indeed, it may be too much to ask that the social scientist "peddling" in the "minds of men" should show some responsibility for the far-reaching effects of their work rather than looking with distinct horror, however justified this may be, at those irresponsible members of the medical profession or physical sciences, whose experimentation has been in violation of their oath and humanitarianism.

In the framework of all that has been said, let us note that the organizations mentioned above are sponsoring and supporting a series of books, the purpose of which (as stated by the first organization) is to "plan and stimulate research that might lead to better understanding of the complex processes involved in cross-cultural education. Practical considerations led to concentration on present and former students in United States universities." The books published, for example, have dealt with Indian, Swedish, Mexican, and Japanese students. We will take examples from the first book, and the criticisms will be directed towards methodological problems involved in such studies; however, certain of the weaknesses are apparent in the other studies in this group as well. We hope to show that such work does not lead to a better understanding, but rather a better misunderstanding of cultural situations which is not conducive to a possible utilization of these findings. Not only do we hope to find foci of interest for faculties or administrators concerned with problems of culture and education, but also to those active in the promotion of a better understanding of Asian life (by the west, as is a major project of UNESCO) (17). A recent issue (4) of the *Bulletin of the American Association of University Professors* would also indicate that problems of cross-cultural education are of general interest.

One hopes to point out in the following discussion of a cross-cultural study, that first, the individual cannot be treated as a "Hollow Man," with nothing within and nothing behind; that is, both the psycho-biological and cultural life must be considered. Second, that the behavior of national groups cannot be treated as if they consisted only of the behavior of "kings, queens, and jacks," for these represent only the observed and the observer, the lone indi-

[2] References cited in this paragraph are offered as examples of book reviews found by this author, and no claim is made to the completeness of the list, although efforts were made to obtain as many as possible.

vidual and not the group. Third, facts cannot be interpreted for "what they are" and a dynamic interaction of levels is necessary for analysis; that facts cannot be treated as if they exist in a vacuum and must be viewed from many levels before a meaningful statement can be made. Fourth, that to point out the unique qualities of culture may be ethnocentric (11), but that by avoiding such focus through analysis in terms of "pan-human dimensions," only leads to the vulgarization of the comparative method in culture, for its rationale implies similarities but also dissimilarities. Last, that the scientists' interpretation of a fact may differ from that of the culture in question, but that this is not due always to a difference in social perception (as the sophisticated scientist thinks), but because (to use E. M. Stern's words) the hideous picture painted results from trying to spread information upon the wrong canvas.

### B. The Lambert and Bressler "Approach" to Experimental Design

The study we are examining in this series on cross-cultural education is by R. D. Lambert and M. Bressler, entitled *Indian Students on an American Campus* (12). We hope to first deal with the formal methodological problems that yield questionable data, before examining the other side of the coin, namely the problem of a "blackbox" analysis of culture.

Much of the strength and backbone of a study lies in how an experiment is designed. One of the most basic problems lies in how the sample upon which the results are based is chosen. If not representative of the population, then the conclusions of the study cannot be generalized to it. In the Lambert and Bressler study let us examine how much care has been lavished on this aspect. First, we have nineteen subjects as a sample representing over 1,500 students. Only sixteen of these are from India (the rest from Ceylon and Pakistan), and represent only six out of the fourteen Indian states. Their religious affiliations are three in number. These authors consider the variable of years spent abroad in this country by a student as important; if this is so, then the sample can be further divided as including time anywhere from one to seven years. The information for the study was obtained mainly through the medium of interviews which ranged from two hours for certain subjects up to eight hours for others. Eight students were interviewed for the longer period of time, but we are not informed as to how or why these were especially selected. The marital status was both single and married, a variable which is of special significance here, but ignored. Since these subjects come from a culture where the pressures towards early marriage are very strong, therefore such a variable would make a difference in terms of

the individual's socio-economic and educational background, and furthermore the pressures the student would have to face would also vary (psycho-sociological, economic). All the students come from a single American campus, which implies some very specific interests, since the choice of the institution often depends upon the departments which are outstanding, thus, for example, at the university under consideration, the schools of business, medicine and southeast regional studies (12). Not all of the sample consisted of individuals who had been students in their home countries. For example, four of these "students" had been members of faculties and two had been practicing medical doctors. Of the remainder, eight were in business administration, while the rest were uncommitted, but with interests in English, education, political science, and international relations.

It is worth noting that in this day and time, when work in the social sciences has attempted to show the correlation of personalities or attitudes of individuals with a person's choice of an academic field (Anne Roe, Kanwal Mehra), that we are expected to believe, that when over 50 per cent of this sample comes from the medical and business schools, their views represent those of all Indian students in, say, politics, religion, or scholarship. While undoubtedly the interest of the other-odd 40 per cent is broader, one must admit that the foreign student who has still not made up his mind about what he wishes to study abroad is suspect of not having very academic interests in mind (especially when they come from a highly structured academic pattern). At any rate, he cannot be said to represent the population, but can be regarded as a deviant. Even American students in their own country are rarely found at the graduate level who have not made up their minds about what to study, and certainly are not typical.

It would seem that Lambert and Bressler are aware of methodological sophistications, for they say, "the small size of the sample and the nature of the data collected do not permit elaborate statistical manipulation of the information." It is a pity, however, that they are unwilling to take the next step (or maybe the prior step when planning), which is that a small sample as heterogeneous in uncontrolled variables as theirs does not allow one to make generalizations, especially with regard to implications for exchange policies. Undoubtedly if the sample had been larger there would have been every reason to vary the variables related to interests, age, sex, length of stay, economic and regional background, besides many more. But with the present size of sample and large number of variables, one is left with sub-samples which are not even worth mentioning. We are not making a case for large samples, which are neither possible at times, nor merited due to

the intensity of the study. But none of these reasons applies here. Even small sample animal experiments with known genetic characteristics are not used by scientists to make statements that they relish about the future of human populations—even if they are foreigners! Where small samples are used, necessary statistical levels of risks are used to offset spurious results.

Another aspect of sampling procedure (related to bias) has been ignored. No information is given as to whether students were obtained by random sampling, whether they were volunteers or paid subjects, and if they were volunteers what their motives were. For example, individuals were obtained through an official university seminar discussing nationalism and political trends. The material was recorded. Are we expected to believe that these students felt free to express their opinions in front of individuals unknown to them, including foreigners? That the leader of the seminar in no way dampened free expression, due to his nationality or because he was a professor giving credit for the seminar? It is stated that some of the students volunteered for psychiatric interviews. However, no explanation is given for the motives of those who did and those who did not. Moreover, no conjectures are made as to whether such individuals who need psychiatric help for their problems are representative of the "normal" population, since these interviews are also freely used to generalize from. Questionnaires were administered dealing with the amount of contact the students had with their own people. Evidently these did not, and neither did the authors feel it important to mention the trichotomy that exists here, namely those individuals who ignore their countrymen, those who mix with both groups, and those who associate only with their countrymen. Such information is highly informative in making some predictions about the adjustments these students make when they return, information which it would seem would be of primary importance for those who speak of their interest in "exchange policies" and "furthering understanding."

To turn now to another phase of the study, namely of data analysis, the authors make a statement which we are not able to comprehend. Tests were administered to elicit personality variable presumably because these are considered important. However, Professors Lambert and Bressler tell us, "we are at a loss as to how to make use of the findings." If the authors neither know how to make use of such findings nor show any interest in the cultural background (as we shall show), what is their rationale for doing such a study? Suffice it to say with regard to personality variables that the reference we shall make later to Asthana's study (2) may be of some interest.

Another (and perhaps most fundamental) basic methodological question

is, what are the minimum requirements for an objective study of culture? This was given some consideration by using a list developed by Herbert Hyman, containing variables related to background, experiential and attitudinal dimensions, but no other details are given. Whether adequate conditions were there to start with, or whether this is where the study was weak, we have no way of judging. However, it is stated that the list was adopted to cover minimal ground in studies of all foreign student groups, yet we find little cognizance of the comparative approach within these groups. Thus not only a rich source of material and speculation is left out, but also we have no way of knowing when the behavior of Indian students is unique and when it is common to all students. For example, there are many pressures on such subjects, not only physical but those which make for a psycho-sociological "hand-to-mouth" existence. To name a few, there are those that have to do with matters of family, finance, length of stay, immigration requirements, religion, sex, politics, discrimination, new educational techniques, communication, and the pressures to adapt and conform. Such lists would change from group to group and would depend to some measure upon the distance of the cultural groups in social ethos, dress, and physical characteristics. Just a few of these have been remarked upon by Lambert and Bressler, and mostly in conjunction with the students' attitudes towards the American reactions in these areas.

Criticisms in terms of some other through valid frame of reference, towards theory or methodology, is well and good, but a more complete criticism can only be made by adopting the authors' frame as well. For Lambert and Bressler it would seem that this has grown out of role theory. One of the major workers in role theory tells us that, "its variables are drawn from studies of culture, society and personality. The broad conceptual units of the theory are role, the unit of culture; position, the unit of society; and self, the unit of personality" (19). Let us keep this in mind as we examine the study further.

As we stated earlier, a study of personality was made, but the material was discarded. On the other hand, has a study of culture or of society been made, and the answer as we hope to show very concretely with examples is negative. If this is so, then how can one be said to have an interest in the approach of role theory, without any interest in the interaction of role (culture) and self (personality); or without interest in what subjects in an alien culture are supposed to do (position) and be (role)? If there is lack of interest by Lambert and Bressler, once more it is perhaps not so much in intent as in practice. The individuals in the study are supposed to play three roles, that

of the student, tourist, and ambassador; all implying certain patterns in an alien culture. We are informed in discussing the "student role" that "it may be taken as axiomatic that the Indian student anticipates that an American university will in some way reward him in India." What do they mean by "reward"? Remarks like "better secure their investment," "vehicle of upward mobility," and "higher doweries," lead one to a conclusion which is not unjustified, namely that the student has no intellectual ambition but only a monetary or social one. Even if this were true, should it not also be considered that there are a certain number of individuals among all groups of students where the Ph.D. has become a stepping stone for merely more money or social reclassification? Disregarding such comparisons and making such pronouncements about a culture's future academicians makes one question the authors' expert knowledge of a culture which first, values scholarship for itself; second, has students, many of whom come from the upper socio-economic classes and would hardly have room for "climbing;" and third, when a number of students come from families which do not have the dowery system because of either the religious group they come from or because of their own personal beliefs. All said and done, since the dowery system is now being outlawed, and gaining in practical implementation, undoubtedly fewer students (according to Mssrs. Lambert and Bressler) will come for an education? That no Indian student is here for the purpose of acquiring knowledge and skills, either for their own sake or to teach and do research, is a very major finding by these authors and will be a finding of disturbing import to foundations, faculties, and students. It is indeed sad to read a description by these authors of these students aesthetically dovoted to their books for the type of rewards mentioned above. With the interest in recommendations that Lambert and Bressler have, it is indeed surprising that they have not recommended the wholesale deportation of this group of students!

A whole chapter is devoted to the ambassador role of the student, and much is made of the questions in the "sensitive area" complex of these students. No mention is made that the role is forced, and unhappily rejected later, for it is not a happy responsibility to be a walking encyclopedia of one's culture, or answer questions which require the reinforcement of the questioner's own bias and seldom honest replies (i.e., transmigration of souls, local communist strength, five-year plans, coal and steel production, taxation, status of women and sexual mores, modern and ancient architecture). It naturally leads to techniques to evade questions and it is the etiology of this type of behavior, and the so-called sensitive area complex, which should be investigated, since to term it sensitive and leave it at that does not permit one to get at the roots of the phenomena.

The tourist role is then discussed (being given equal space in a small book as the student role) with four cross-cultural images. The "family" image we reserve for later discussion. The second has to do with race relations. Here we are given to understand that the most important thing for the student is self-interest, with some ghosts of white colonialism thrown in to intensify the feelings. The feeling of possible discrimination by students is here interestingly ignored by the authors as "folklore." That self-interest is the major reason is indeed a sad finding for those concerned with the betterment of race relations. But perhaps the authors should have taken the trouble to compare the attitude of their sample to the students in India, or studied the socio-historical forces, before imputing self-interest; for they would have found that even at home this "folklore" exists, where self-interest cannot be the cause. Furthermore, even within this country, a review of the housing problems that these students face might be revealing to these authors with their belief in mere "folklore."

The third image deals with religion. The overt or unexpressed needs regarding the lack of religious facilities are ignored. The only point of interest seems to be that the orthodox are greeted by Indians with ridicule and ostracism. A study of any of the International Houses will show that not only is there no ostracism of these people, but that they frequently occupy places of respect and influence, both informally and in their associations. As for ridicule, even the atheistic Indian (20), (if there be such a thing—as an American pointed out), will go to great lengths to satisfy the religious requirements of this group. That the orthodox in minority groups is "kidded" is a well known phenomenon that psychologists have dealt with and has its own explanation.

The fourth is the political image. The discussion of it gives no idea of the important role that current political events play in the life of foreign students, even when these are not directly related to one's country, as the Suez Canal crisis. These students come from countries which are hyperconscious politically and the effect of the political crisis on the work of students has not been investigated.

### C. The Lambert and Bressler "Approach" to the Betterment of International Understanding

It is regrettable that there are as many social scientists as diplomats who hold that presenting of facts, the removal of despotic rulers, and education will generate acceptance and understanding between peoples (22). For example, Morton Kaplan has stated, ". . . the illusions these 'behaviorists' propagate are accepted by large numbers of professionals in fields outside of

political science and underlie the UNESCO studies" (10). This naive philosophy often ignores the fact that people have little desire to get rid of their preconceived notions.

The first suggestion made by Lambert and Bressler towards the establishment of understanding states that familiarity brings about understanding, which in turn breaks down resistance; although history is rather replete with examples of those who have grown up in the same community, and familiarity has not bred understanding, but bloodshed. Patronizing attitudes and interest in only sensationalistic facts do not help understanding or an appreciation of other peoples. Therefore attempts to get foreigners together in itself may widen rather than narrow the gap. It is interesting in this respect that the authors themselves point out that foreign students who are willing to make informal contacts with American families in the beginning, are not willing after some stay here.

The second suggestion is that through the ascription of status and recognition of individual achievement, understanding may be brought about. Through overt individual status recognition, he may alter his perception of America's attitude towards India, and relax the set of mechanisms which he erects in defense of his country. To implement this the authors suggest that summer institutions have the name of foreign students who are leaders of discussions, etc., included on the official letterheads. It is incredible that out of all the possibilities this method has been chosen, which implies that the status needs are so strong that they would override the students' judgment and self-respect. Evidently they feel that friendship is a commodity to be bought. That this has the bad odor of methods utilized by colonialists to buy support of the colonized, and never ultimately succeeded in history, is too well known, even for students to be culturally seduced. Such an approach is even more surprising considering the next suggestion which is that we have real, rather than contrived situations.

The real situations are, one, more domitory living, but even the authors remark on the tendency to aggregate and the adverse effects of breaking this up. Two, join neighborhood organizations; but it is doubtful that with the pressures of academic work the students can take a real interest, and evidently the authors feel that the student should actually help to execute community projects. Third, that the foreign student see a larger number of Americans, which contradicts an earlier suggestion that visiting one family is more advisable. The last suggestion does not belong here, to change the attitudes of American tourists.

In the modification of educational practices it is proposed that the length

of stay be settled before departure. If the authors were acquainted with student immigration and visa policies, they would know that this is done to a considerable degree. Greater rigidity is out of the question. Who and how would such a time limit be fixed? For example, time taken can depend upon the background in a particular discipline, which varies from country to country (academic standards), institutions attended, and the area being studied. It is then suggested that it is the longer stay that makes for degree getting, rather than that longer stays become necessary because the student has a degree in mind. Moreover, it is argued that the greater the time spent abroad, the greater the problem of assimilation when the student returns. It seems to us that assimilation is not a process which takes place only because of time, and this observation can easily be tested. In this case it is maybe much more dependent on a number of factors, such as the student's socio-economic background, family relationships, patriotism, personality variables, and the age at which the individual was introduced into another culture.

It is interesting to note that with this attention to the problems of assimilation and role playing, Lambert and Bressler have paid little attention to the conflict situations of role and self in this context. For example, it has been pointed out by Hingorani (9) that pressure is brought upon students to adapt to "the American way of life," the idea presumably being that for efficient and happy survival, it is necessary. Hingorani attempts to show that this is not the best solution but makes for later complications. Pressuring the student to conform adds to his conflicts, and adaptation cannot play the same role it does for those who have permanently immigrated. How does one keep one's old identity, acquire a new personality (7), or "walk the tight rope," and unlike the servant in the Bible who served two masters, serve three masters (id and the super-egos of the two cultures)? If the balance is not kept, when he returns, he will be unable to cope with many problems; the working conditions are not perfect, the pay is too little, his knowledge is too advanced, and he inevitably has family problems. Such a maladjusted group is also more willing to go along with what Lambert and Bressler express as follows, ". . . we wish the verdict to be favorable, hence the compulsive need for reassurance that they (foreign students) do indeed 'like America,' they are the best friends of the United States." It is pointed out by these authors interestingly enough that it is the uncommitted (academically) student who makes the best adjustments and the most amicable relations with Americans. Considering what was said about this type of student earlier by us, it certainly raises a very serious question about why it

is that the less serious scholar, the dilettante and the unrepresentative student, is the foundation for international friendship and understanding—especially of the United States? Such a question has disturbing answers, and if we are genuinely interested in the establishment of better relationships among cross-cultural groups, we must face such a question and not dismiss it.

We would end this discussion of Lambert and Bressler's "methodology" (and findings) by quoting Lysgaard's comment on the Swedish counterpart of this series of studies, who says, ". . . one is a little disappointed, however, that the author has not utilized social science methods more efficiently so as to bring his insights beyond the impressionistic stage," and ". . . this may not be social science at its most advanced stage . . ." We cannot but share this view with regard to the Indian study. One wonders how many of the current studies being sponsored by the previously mentioned organizations suffer from the same or similar mistakes. This would certainly be a worthwhile project for some group to investigate.

Let us now turn our attention to various aspects of analysis that were in the main ignored, and explore the possibilities of investigating at one or more levels a cultural group, such as to eliminate having "paint—but no canvas."

### D. The Voluntary Ghetto

The association and residence of a foreign student for a major part is usually in an International House. Lambert and Bressler, in their page and a half devoted to this subject, seem only concerned with its physical facilities and general activities.

The well known sociologists, Lewis Wirth and Robert Park (24) have commented on the Ghetto as being typical of a number of forms of community life, and on the light a study of this phenomena can throw upon similar experiences of society. We are using the term not in its limited applications, but as it has come to be, a common noun which applies to any cultural group. It has been said that people see it as a physical structure, institution, and people bound in space in a mechanical fashion, but not as an organic whole, created by a need and in turn expressing something that is new. In the same manner, International Houses may be established for many reasons, but also because they perform a function which cannot be measured in physical and material terms. How such a restricted, but voluntary community affects and shapes the behavior of these students would be worthy of intensive study. For example, here is also a case of soical isolation which is an effort to adjust outwardly to strangers; which isolation, must have moral and cultural

consequences. It expresses security within an alien system, and provides the basis of an *esprit de corps* which helps to maintain the individual. Here is an expression of social distance in physical distance. It is also a form of toleration which establishes a *modus vivendi* between culturally conflicting groups, with only one point of contact—academic! "There are the elements of a common language, of community of ideas and interests, and the bare congeniality that arises between strangers who, coming from the same locality, meet in a strange environment" (24). Here is an area much like the ghetto where one obtains freedom from hostile criticism and the backing of kindred souls. Here is a world for the foreign student in which he can relax from the pressures of customs and etiquette of a strange world. Here he can express the self, and not be playing an artificial role. He is not judged as a member of an alien group or only in terms of his educational commerce, but as an individual appreciated for what he is. That this backing of understanding and security makes life tolerable is so necessary a need is also supported by the evidence of outside "ecological" concentration of these people, which, for example, is pointed out by Lambert and Bressler.

But while helping the individual, the voluntary ghetto may also perpetuate some evils. Undoubtedly it not only perpetuates the social distance, but perhaps increases it. However, for a transient population (12) as compared to Wirth's group (24) or Handlin's group (7) representing permanent stay, this cannot be as detrimental (if detrimental it be in any group).

We do not know whether these problems are ignored by Lambert and Bressler, because their thesis (though not in practice as we now show) is that the major determinant of experiences for the student lies in their home country. We cannot but agree, however, that this also has been inadequately dealt with in our opinion. We would suggest here that a knowledge of variant value orientation is necessary to understand major value orientations (11).

### E. Interpretation at the Linguistic Level

Aside from the work that has been done in psycho-linguistics, a recent conference under the auspices of the Josiah Macy, Jr. Foundation and the Department of State (8) discussed the intercultural barriers to communication and interpretation, thereby focusing even greater interest on these problems. The Lambert and Bressler book, except for one paragraph, ignores the problem of intercultural communication.

The authors have remarked, that they have found it very surprising that the students from foreign countries who on the whole evoke praise from

faculty members, have their academic competence rated as being "average." They proffer one reason, "that there can be little doubt that such cultural factors as linguistic difficulty . . . acted as limiting influence." That the limiting influence is paid so little attention in a book whose concern is the academic pursuits of foreign students, leaves one astounded. No hypotheses are extensively developed, we find no detail investigation, no mention even in the chapter on implications for research and no discussion in the sample interview, which we are informed covered "elaborately" and "intensively" the attitudes, opinions, and difficulties that the foreign student had (sample interviews given in a book should presumably be representative of major points covered). Would the authors of this book have us suppose that the foreigner, and in this case the linguistically overconscious Indian, was interviewed with sufficient care and "intensively" enough, and yet never mentioned language difficulty . . . and neither did the interviewer? If this is the case, then such an interview can not only be of little value, but also would cast additional doubt on the value of the material it does produce.

But let us suppose that books of this type are concerned with students, who have scholarship and skills as one of their aims (while spending so much of their time, the professors' time, and their governments' money abroad). Presumably, the authors will agree, that the more usual methods of communication between a teacher and pupil are through written and oral use of language. It is well known that language not only expresses thought, but also influences it. In paying their paragraphs worth of homage to language, they have noted an example of language where the degree of comprehension can vary within a wide range, when the student is listening to conversation. The reasons proffered by Lambert and Bressler are two, namely, a convenient misunderstanding by the student when it suited him, and the factor of stress. The first cause is not elaborated and the second is left unexplained. Regarding the first reason, we would like to question whether convenient misunderstandings are a prerogative of foreigners, even though admittedly they have a better chance for misuse. It seems only common decency that suggestions of "convenient misuse" should be made only after a very careful study of a phenomenon has eliminated all other possibilities.

The second cause for comprehension fluctuation, namely, stress, which is not elaborated upon, we shall now study a little further and show how perhaps Lambert and Bressler may have explored a major cause in academic deficiency. The effect of this stress upon language could be divided into two categories; first, that which comes with or due to experiences in the past with a language and the situations it may have created; and second, stress

that comes from *immediate* miscomprehension of the other speaker, or miscomprehension of one's own speech in an alien tongue.

In the first type, the individual you speak to is partially symbolic of former conversationalists, and you may be aware that they could not always comprehend your speech. Thus even before a conversation has been started, you are aware of the possibility that the other person involved may not follow what you are saying and may even show irritation. Conditioning of this sort depends upon each individual's past history; the greater the difficulty in the past, the greater the stress at present.

Another factor here is that of verbal fluency and accent. It is a common experience by foreigners while they are speaking to an American that the American's level of comprehension also varies. While the pronunciation of many words can be followed, those of others cannot be, and these may be key words in the conversation. Therefore the foreigner is apprehensive before the word in question comes up, expecting difficulties or even a frown on the other's face. Depending upon the situation, he may give up his habitual pronunciation of a word in order to ease a situation. It is worth noting that such a conflict may be going on while the conversation is proceeding, so that attention is divided (see further on for other causes of divided attention). Furthermore, in the same way that the stutterer is self-conscious, so also is the foreigner of his accent. The way the accent is varied in different situations would be very worthy of a study.

The second type of stress is associated with the problem of the language differential in a bilingual situation. However, we should mention that the topic for discussion and the individual being spoken to can both become causes for stress (as is true for all), but that the person from a different culture possesses stressful topics that are not common to all, and neither is the image of the person being spoken to invariant under cultural change. These images are not ones that we are all aware of, and depend upon the meaning of such factors as status and relative hierarchy, age, sex, and particular manners of a culture.

Beside the problem of how stress interferes with the communication of ideas, there is also the problem of why comprehension keeps fluctuating when the stress factors are fairly constant for a given individual. In the written expression of a language the various changes in structure that a foreigner makes are unmistakable (i.e., the long winding sentences, odd punctuation, greater or lesser use of active or passive voice, or adjectives and verbs, displacement of the subject to the end of a sentence). In oral expression the differential is not always so obvious, and unfortunately so, because our

ignorance of the differential makes us complacent, that more information is being conveyed than actually is the case. Furthermore, the assumption, that while the structure of languages differ, the meanings of the same words do not (a common fallacy among certain psycho-linguists these days), complicates matters even more so. To the bilingual individual, this fallacy is quite plain. However, if these reasons were adequate to explain the fluctuation, then once again we note that comprehension may be low but would remain at a specific level (presuming that the complexity of ideas in a conversation has been controlled for). Such a control, however, is not there and further there is nonfamiliarity with ideas and the way in which they are presented.

Taking the first, the familiarity with ideas presented, it is not surprising that comprehension cannot remain the same; for consider that sentence A may have familiar ideas, while B consists of the unfamiliar. Therefore, in order to understand B, the structuring of the sentence in addition to its meaning has to be mastered, while A presents no such problem. This kind of situation is faced by any adult in his own language, while conversing with a small child. The adult must understand the content, overcome the particular articulation of the words, slurs, mispronunciations, or even a completely unique arrangement of words. In other words, the particular "coding" adopted must be broken down, while the adult who is the parent has little difficulty.

The second contributor to the fluctuation problem that we mentioned, was the way that ideas are presented or follow upon one another. One tends in highly technical discussions, for example, to assume that everyone has the same frame of reference as a background. Certain matters are left unsaid and presumably are understood, when in fact they are not. Glen (8) makes a point in this respect, that Americans believe in the clarifying virtue of concrete and specific descriptions; while Europeans of French background base their explanations on a preliminary statement of abstract theory and principle. In such a situation then, an individual may feel that he is impressing and emphasizing the pertinent points while the other individual is puzzled as to why this material is presented at all. In this manner the foreigner has the problem of constantly understanding the points and why they arose; in other words, he must accomplish more in the same amount of time. His attention must vacillate back and forth.

Besides the above mentioned problems, there is one other related factor. Even where the translation of a sentence is word by word the same we noted that the implications may not be similar. But the problem is a good deal more

delicate and subtle. When there is no need for translation and the language is the same but spoken by individuals of different cultures, the meaning implied can be different. How the undertones, the over or under emphasized elements can change a meaning is difficult for a unilingual social scientist to follow, but to any individual with experience in the field of dramatic arts it is only too clear. Recently a psychologist came to an important conclusion about the "superior" attitudes of an Eastern cultural group, and his basis was the statements made by the leader of this group. His conclusion was justified in the light of the English words used, which was also the mother tongue of the psychologist. Interestingly enough, psychologists from the culture group in question could not agree on the interpretation, but had to admit that the words themselves connoted the meaning given them by the American psychologist. Let us see why this difference. The outsider takes the sentence and interprets. The in-group individual takes the sentence, perceives the pauses, the differential emphasis on words, looks at or imagines the gestures used to go with the words, the facial expressions, and comes to a totally different conclusion.

It is worthy of note that while none of these problems are investigated by Lambert and Bressler, they are unhesitating, in their characteristically sweeping style, in informing us that Indians are not interested in improving their grasp of the English language. The reason given is that Indians look down on "American English." Even granting that this were so, surely these problems do not enter into written English, especially in the case of technical subjects. Here again where the authors find a point of interest to them, they are not interested in whether the learning of better English could be symbolic of anything in the experience of the Indians' present or past (20). The most obvious association of the English language is with a colonial past that "rammed" down an alien tongue to the detriment of indigenous languages. Secondly, one must examine the position and worth of knowing excellent English in the India of today. This position is questionable and dubious. Thirdly, if one is interested in practical suggestions, let us ask what are the chances of an individual rising from a fairly high level of English to one of perfection. This is often an impossibility and obvious to those acquainted with foreign student problems; those problems especially of time and financial pressures, and the frequent inadequacies in academic background which must be made up first.

We might end this section by saying that Lambert and Bressler's terms of reference derive from what has become known as the "pane of glass" theory, that is, to take care of the linguistic problem *as if* this problem

could be isolated from the problem of cross-cultural communication in its generality. Such a static approach (ahistorical) towards the subject, enshrined in a "cultural greenhouse," is both unrealistic and naive. D'Haucourt (8) has remarked on such a "pane of glass" theory and proposes this as one reason for the poor results of international gatherings, and that therefore the problem of cross-cultural communication warrants examination. It is plainly evident that before we speak of "international understanding," the "reduction of world tensions," the students' "ambassadorial" role, the technical exchange of information, and the "limiting influences" in education, we should first apply ourselves to more fundamental issues upon which the edifice of communication is built.

### F. The Psycho-Biological Level

We now turn to a consideration of the analysis of the individual. The two aspects for analysis usually considered are those of the development of the individual in terms of a longitudinal study, and the personality structure of the individual in some fairly objective way. The Lambert and Bressler study has dispensed with such evaluations, except for minor references primarily in the chapter on the "Tourist Role." The seriousness of the omission is shown by an allied study which utilized Indian students in the United States as their sample, and dealt with personality structuring. It is pointed out in this study by Asthana (2), that a study of personality and social configuration are a barometer of a given social organization. Can such studies of personality lead to fruitful hypotheses in cross-cultural education, or must we abandon here this whole area, because we can find no means to analyze such findings and subsequently put them to work in improving our understanding of cross-cultural processes?

It would not be difficult to conjecture whether the ego-defense mechanisms of a particular group contribute to or hinder the ability to assimilate and conform to another pattern of cultural life. Do adjustive mechanisms in Indian society (2), such as outward withdrawal, passivity, and a latent survival of hostile feelings expressed in fantasy; of strong control of effective expression; or the rigid and hierarchical nature of the family and elders of age and status, give us no clues to the understanding of the students' behavior as it affects academic relationships? The few statements that were made by Lambert and Bressler, as we shall refer to, are shallow, but balanced by the potent implications. No interpretations or explanations are proffered as a background to these examples, with the result that a perverted image of a culture is presented.

## G. The Socio-Historic Level

It would seem almost a basic tenet in the understanding of a foreign group that some brief background of the group's socio-historical roots be given. For instance, in order to evaluate the American academician as compared to those of other countries, could one neglect the reference to whether they were refugees of the 90's, the early 1900's, or those of the 1930 era; whether they came as immigrants, or were first or second generation Americans; whether they came from Western, central, or eastern European countries; or whether they were from ruling majority groups or persecuted minority groups?

The methodology of Lambert and Bressler assumes that the group that they deal with is homogeneous, and thus whether an individual is a refugee after the partition of his country is inconsequential (even though this event may have had severe effects both personally and academically), though whole families were wiped out and college attendance, if any, was at transitory camp colleges for many. Another factor to note is that the American only slightly resembles his Indian counterpart, in that the latter possesses a definite provincial background. This is barely mentioned by the authors. While socio-historic roots of Indians have much in common, the individual heritages of the Punjabi, Gujerati, Maharashtrian, or Bengali are unique in certain respects. In general, disruption of education and other cultural facets has been the historical fate of northern India, while the south has immeasurably profited from the relative stability over many hundred years. However, conditions of instability and the non-existence of a single continual *modus vivendi* have their own final rewards in the spirit they engender. In the context of this, is it relevant that some groups excel in their spirit of enterprise and martial endeavor, while others in trade and commerce; some in artistic and literary traditions of political hyperconsciousness? Would the study of the influence of such past involvements, especially upon the particular fields selected for study at present, not be informative? Are students influenced by such factors in deciding in favor of a theoretical or abstract approach (as opposed to an applied bias), even when a nation may have great need for skilled technicians? Are these students reflective or practical in their method of tackling a problem of research? Are they unusually critical or do they tend to be automatons, passive, and dependent with little initiative of their own? Is a knowledge of socio-historic background, of family structure and the rigid authoritarian educational systems, or of the scars of the colonial past not necessary, before we attempt to give

answers to problems of cross-cultural education? There are evidently those who feel that the future need not grow out of the past (as did E. Burke), and that a philosophy of "nothing within and nothing behind" is legitimate.

Two brief but general examples will show that such assumptions only lead to misrepresentations. An Indian psychologist spoke on group tensions and was questioned by his American colleagues as to whether a break-up in the caste system and the resulting tensions would not lead to increased incidence of problems in mental health and delinquency, the legitimate assumption being that disintegration in society's traditional patterns leads to breakdowns in the individual's personality, as experienced in many European countries after the war. The reply was: "*A priori* one may expect this, but here the opposite is true. The history of India from Buddhism to Islam is one of revolt and the giving up of status in the caste system, and this has met with great admiration." Secondly the ideal of Indian society (20) is for an individual to become a "sanyasin" (one who gives up position, wealth, family, and caste); a profound surrender is made in the giving up of all that has made life secure and pleasurable. (In passing we note that it has been questioned whether there is this ideal in view of the continued existence of a caste system).

The second example which is a case in nonfamiliarity of social customs has been given by an American psychologist (Cantril) as an example of differences in social perception, which it is not, thereby emphasizing the point that even where a social scientist is highly cognizant of cultural differences in interpretation, an error is only too easy to make. The example concerns the nonchalant attitude of the Indian medical men to a flagrant disregard of hygiene (in transferring ice from one pitcher to another by hand), even though simultaneously being greatly concerned with improvements in public health. It is not, however, that the Indian "sees" things differently from the American, but that Indian culture has strong restrictions about touching food with one's hands unless they have been washed prior to this, in which case it is the cleanest method rather than using implements which may unclean.

The acceptance of the belief in "pan-human dimensions" (11, 14) and the cry for deculturation by certain social scientists can only lead to the furtherance of such errors.

### H. Interpretation at the Philosophical Level

While Bendix and Kluckhohn have commented on the necessity of recognizing the non-uniformity and non-homogeneity of an alien culture, there are still social scientists who disregard such cross-rhythms of a culture.

For instance, one of the categories of dividing phenomena is that of traditional versus progressive (modern). "Traditional" seems to suggest political and moral conservatism, a wish to return to earlier and presumably "primitive" state of things. He therefore looks at the religiousness of the alien (or even minority groups in his own country), at the wearing of the native "costume" (sic!), or of the insistence of previously colonized people to now emphasize their own language (so that they can express their own vitality—without accusations of not wanting to learn English), as being backward, chauvinistic, primitive, conservative, and shall we say unprogressive. But what is now so upsetting to such a social scientist is that this alien from within and without his culture does not follow the rest of the pattern he has laid out for him. The alien refuses to be a total traditionalist, and espouses ideas that go beyond the liberalism which is the hallmark of the intellectual "avant-garde" scientist. The alien is dismissed as a "crazy" foreigner, but the individual from within the culture bears a much harder fate. "What he (the social scientist) does not realize is that in certain contexts however, tradition is bound up with moral, social and political rebelliousness." As Metraux has put it: "We can no longer reduce things to two points of view that have to be fought out. The frame of reference with which we shall increasingly have to deal is a multiple frame of reference." That the social scientist cannot rise above the dichotomizing of phenomena is a tragedy of the studies of cultural behavior, but is an acknowledgment that the scientist is only too human. For the method of judging is a reflection of his own cultural antecedents, of the ideas prevalent in the philosophy of his own culture. The "either—or" philosophy is especially unhelpful in truly representing eastern thought, where there is not the sharp dichotomy as for instance between the "spirit and the flesh," as is encouraged by Christian thought. Thus sexual representation in the rock carvings of temples are either viewed by westerners with sophisticated tolerance or horror. This attitude is also true in an analysis of sociopolitical behavior, where principles of basic importance are neglected if at all recognized (as the philosophy of *Sahaja*), and political neutralism is seen as "sitting on the fence," or where to refuse nothing yet to remain indifferent, is considered conflicting if not mystical. As Geoffery Gorer has put it, if we attempted an understanding of what principles are of prime importance in a culture, we would contribute much more to international understanding.

It is this type of analysis which must proceed and become the bedrock of international relations, before a person-to-person meeting can bear fruit.

## I. The Problem of Levels within Levels in Cultural Analysis

Having noted some of the many levels at which analysis must take place, we must ask whether such consideration is sufficient in order to obtain an adequate picture of a cultural problem. The answer to this is made plain by a quotation of Eisenstadt (5), namely, that social time and space are not equivalent with mere "duration" in time and space, and that this is shown by the fact that every social structure lays different emphasis on different aspects of (or points in) time and space. With the following illustrations the point should be clear.

Recently an American sociologist spoke of his plans to do a Kinsey-type study on the Indian female. It is difficult to believe that any valid information could be obtained due to this culture's attitudes towards free verbalization on the subject of sex. Especially in northern India, doctors are often frantic because women patients will refuse to give even their husband's name for identification or emergencies during hospitalization. The classic answer is, for example, "Arun ki ma" or "Arun ka bap" (the mother of Arun or father of Arun), and reasons usually are a respect for the husband and modesty in public. In a different context, if direct reference must be made by her, she will attempt to name him in terms of his profession. If this is assumed to be the attitudes of the uneducated only, this is not entirely true. If the social scientist now wished to categorize this society as inhibited and hypocritical regarding male-female relationship, he would be led into a serious error making an analysis along this dimension.

Some attitudes have a history of a hundred or five hundred years, but here we deal with an attitude that is prefaced by at least two thousand years. One cannot really say that American Indian sexual attitudes have widely influenced present-day Americans, or those of Elizabethan England the present responses of Englishmen to any extent. Thus even where histories do exist, the individual is not necessarily at one with the historical roots of his "early" culture; partly due to the changes in the conditions of a society, and in part to the emphasis put on different periods, which varies. Therefore, to attempt an analysis of culture by ignoring or taking singly the events of history would be to do a subtle violence to the "facts."

If the society in question is to be judged as inhibited and hypocritical, then what are we to do with such monuments of human literary efforts as the *Rig veda* or *Atharva veda,* or the *Kamasutra* of Vatsyana; of the meaning and intentions of the builders and sculptures of Khajuraho, Bhuvaneshwar, Konark, and Puri. Should we judge by the law of Manu or the

Ghandarva form of marriage acceptable until the medieval period; shall we judge by the influence in northern India, in particular, of the Mughal and Islamic traditions; or once again, shall we judge by the moralities of the "Anglocized" who adopted alien pruderies as the "hallmark of being cultured," influenced by the stimulus of British rule and Christian missionaries (1). The mature social scientist, unlike the child who stares with rounded eyes only at the gaudy colors on a toy, must appreciate and not neglect the other qualities which a problem also possesses. For these attitudes are a product of all these events, with such factors as provincial and religious background and personal susceptibilities playing an influential part.

That the above mentioned influences are not taken into consideration by Lambert and Bressler (while making an example of a single student's remark) is typified by saying that the Indian students' attitude in general towards courtship and family life in America is that it shows lighthearted frivolity. The various tokens of affection are supposed to be "on the road for going into debauchery or lack of morals." This statement should not only leave the American aghast, but has the same effect on the Indian. Would Lambert and Bressler suggest that Indian families do not display tokens of affection? Or that to use the words of a European anthropologist upon a European country's mores, "there is more (demonstrativeness), but it takes place in certain places and at certain times only." There is the same restriction in Indian life, and this is evidently what the Indian quoted above was referring to. But without the proper context, the statement appears ludicrous side by side with Khajuraho. To understand the statement further, one must fit it into the framework of mental and cultural colonization which has perverted the earlier awareness of the whole man-woman relationship and recognition in the "facts of life." (1)

## J. Conclusion

We are not unaware of the fact that much of what has been said above is not original. However, there are times when a homage to the bygone is necessary, and a recognition of the fact that appearance is not reality, even in culture. We feel that if this article has contributed to the not doing of research (with implications for student exchange programs, international understanding, and cross-cultural education), without realizing that one does not take a few ill-chosen subjects and their acts and generalize from them to the whole population; that there is more to cross-cultural work than the initiation of a stimulus at the start and an examination of the response at the other end; and that in order to understand the response

one most look both within and behind, thus going beyond a "blackbox" analysis of culture (14); then our purpose will have been served.

What is disillusioning is not that such studies can take place, but that the social sciences will accept them with open arms. They ought to recognize in the studies a symbol not so much of their discipline's primitiveness and ignorance, but of their indifference and irresponsibility. However, it is no exaggeration that prompts one to say that the kind of work that the scientists produce is after all an image of their times, themselves, and the stage of development of their discipline. Not only do they influence the present, but the future, since the accepted work is looked upon with veneration by future students who respectfully copy it. Not only must one take a second look at studies in the social sciences which are ineptly carried out, but also reflect on the ever-changing theories and practices of child rearing and education that affect the lives of countless developing human beings, and at the historians who are biased in the pictures they paint, which would make a mockery of research and the scientific credo, while paying homage to the whims of the individual social scientist and the scientific fashions of the times (15). Is it too much to ask that the social scientist show as much responsibility as he expects of his "siblings" in the allied sciences; or is it too much to realize that culture is the area of the taken-for-granted and scientists cannot afford to take unexamined things for granted (11).

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# SIMILARITY IN FRIENDSHIPS*

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## A. INTRODUCTION

Freud thought that friendships represent a kind of attenuated or diverted sex relationship (5) and many sociologists have demonstrated the role of propinquity and of ethnic, class and other group variables in the determination of friendships and matings (6, 10). Although there would be difficulties denying the empirical data already amassed by the sociological investigators, or the logic of the Freudian position given its assumptions, neither of these positions tells us enough about the matter of pairings. As for the sociological evidence, out of the large number of possible pairings of persons accessible for friendships, only a small fraction of all subjectively-prized pairings is ever achieved. Not all persons who are sociologically similar are equally attractive as friends. And the Freudian position merely reduces to stating that our later attractions and repulsions are echoes of our early life, without accounting for the specific choices within a given range of generalization from that early figure, or permitting prediction. What is required is a more precise identification of those factors that influence specific pairings. The present study proposes to investigate the role of psychological characteristics in friendships.

There are two pairs of specific hypotheses that will be investigated. The first one relates to the needs of each of the friendship pair members, and is concerned with the question whether there is similarity or dissimilarity in such aspects. We hypothesize that in relationships experienced as good ones that the characteristics of friends, as measured by the Edwards Personal Preference Schedule, will be found to be homogamous. Further, as a corollary, we hypothesize that the characteristics of pairs of "enemies," as measured by the Edwards Personal Preference Schedule, will be found to be either not related or heterogamous.

The second pair of hypotheses introduces a more phenomenal note. Here we shall be concerned with how each of the pair members perceives the relationship. Specifically, it is our hypothesis that in relationships experienced as good ones that the friends will perceive themselves and their friend in

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essentially similar fashion; i.e., there will be considerable agreement as to which pair member is the more dominant, the more aggressive, and the like. As a corollary here, we hypothesize that pairs of enemies will tend to perceive each other in dissimilar fashion; i.e., there will be disagreements as to how the relationships will be perceived.

### B. Review of the Literature

A number of studies point to propinquity as the major factor determining friendships among college students (3, 12, 13) with only an occasional study suggesting otherwise (e.g., 11). Similarity of value systems has been found to be a major factor determining friendships (4, 17). Some authors have found no discernible relationship in psychological characteristics among friends (14, 20, 7) but others feel there is evidence, even if tentative, of similarity in psychological characteristics (15, 19). Attempts to predict friendships on the basis of psychological characteristics have not yet been successful where attempted (16, 20).

In the area of marriage, Winch (21, 22, 23) and Winch, Ktsanes and Ktsanes (24, 25) advance a theory of complementary needs in mate-selection. Others, however, (1, 2, 8, 9) have found either no systematic pattern or homogamy.

### C. Procedures

Students in the sophomore level introductory Psychology courses were administered the Edwards Personal Preference Schedule in class. Within a two-week period the *E* returned and administered a Friendship Rating Scale developed for this study. Students were asked to designate their "best friend" of either sex and then to rate themselves on specified scales in comparison with this individual. They were told that they were participating in a large research program, the nature of which could not be revealed at that time, and that their results would remain confidential. Some weeks later the *E* returned again, and administered a "Best Enemy Scale" with the same structuring as before.

Persons who had been designated as "the very best friend" and the "best friend at KSU," or as "the most disliked person" and the "most disliked person at KSU" were contacted. Those who finally appeared for similar testing, and those additional pairs that were located among those who had taken the measures in the Introductory classes, make up the dyads studied. Reciprocally identified pairs were classified as "Very Best Friends." Where a student listed a person as his "best friend" but was not so listed by the

other, the pair was classified as "Friend." There were no reciprocally identified pairs on the "Best Enemy Scale." There were thus three groups, "Very Best Friends," "Friends," and "Enemies."

## D. Results

Of the 15 PPS characteristics, two were found to be statistically significant for the Very Best Friends, three for Friends, and two for Best Enemies. In only one instance was there an overlap, heterosexuality, for the two friendship groups. The correlations tend to be positive, moderate or low, and the number of such significant correlations was approximately the same for enemies as for friends.

TABLE 1
Correlations for Pairs—Personal Preference Schedule

| Characteristic | Very best friends N = 32 | Friends N = 124 | Best enemies N = 28 |
|---|---|---|---|
| Achievement | .08 | .05 | —.12 |
| Deferential | .13 | .09 | .17 |
| Orderly | .06 | .13 | —.13 |
| Exhibitionistic | .00 | .04 | .03 |
| Autonomy | .08 | .15 | .15 |
| Affiliation | .05 | .18 | .10 |
| Intraception | .23 | .01 | .38* |
| Succorance | .08 | .24** | —.31 |
| Dominance | .06 | .07 | —.16 |
| Abasement | .25 | .26** | .34 |
| Nurturance | .78*** | .17 | —.16 |
| Change | .07 | .11 | .17 |
| Endurance | .01 | .04 | .21 |
| Heterosexuality | .57** | .34*** | .26 |
| Aggression | .26 | .04 | .55** |

* Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

Of the twenty-five characteristics on the FRS and the BES, six were found to be statistically significant for Very Best Friends, eleven for Friends, and ten for Best Enemies. None of these overlap with those that were found to be significant for the PPS. There was agreement in the perceptions of both members of the pair for all of the significant characteristics of the Very Best Friends, for ten of the eleven characteristics for Friends, but for only one of the ten significant characteristics for Best Enemies.

## E. Discussion

"Friendship is a wonderful blendship" run the lyrics to a once-popular song. While the melody may have lingered on, the lyrics seem to have become

TABLE 2
CORRELATIONS FOR RATING SCALES[1]

| Characteristic | Very best friends N = 17 | Friends N = 74 | Best enemies N = 16 |
|---|---|---|---|
| Achievement | —.29 | —.79*** | —.64** |
| Deferential | .00 | —.05 | .16 |
| Orderly | —.36 | —.35** | .75** |
| Exhibitionistic | —.40 | .06 | .11 |
| Autonomy | .24 | —.20 | .49* |
| Affiliation | .02 | —.20 | .03 |
| Intraception | .02 | .08 | —.27 |
| Succorance | .13 | .01 | .15 |
| Dominance | —.52* | —.05 | .33 |
| Abasement | —.11 | .03 | .55* |
| Nurturance | —.12 | .06 | .46* |
| Change | —.37 | .10 | .29 |
| Endurance | —.11 | .53*** | .46* |
| Heterosexuality | .11 | —.19 | .60** |
| Aggression | —.59** | .00 | .04 |
| Intelligence | —.44 | —.39*** | .44 |
| Frankness | —.19 | .11 | .07 |
| Success with sex | —.12 | —.44*** | .69** |
| Schoolwork | —.78** | .41*** | .29 |
| Athletic | —.55** | —.38*** | —.25 |
| Attractive | .00 | —.23* | .70** |
| Openness | —.39 | .35** | .50* |
| Religion | —.70** | —.02 | .43 |
| Energy | .37 | —.30** | .21 |
| Humor | .00 | —.50*** | .20 |

* Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

archaic. The specifics of the blending process seem to have eluded the procedures followed in this study. We have gathered evidence that friends are likely to be alike in some objectively measured characteristics, though the correlations are generally not large, but indifferently matched in the majority of the characteristics studied. We have also collected some data showing that friends are likely to agree in their perceptions of the relationship, although here again the correlations are generaly not high, and in a great many aspects of their relationship there is no agreement. Conversely, we have found that persons who tend to dislike each other disagree about a number of aspects of their relationships (the correlations were again modest), but they neither agree nor disagree about many of the other aspects of the relationship that were measured. And further, we found that people who

[1] Since *S*s were asked to rate themselves in relation to the other, a negative sign here means agreement in perception of the relationship and a positive sign means disagreement.

tend to dislike each other tend to be similar in a number of personality characteristics that were objectively measured, no more in number, though different however, than was generally true for the persons who liked each other. To add to this picture, we found that the characteristics they shared, whether as friends or as enemies, were not the ones that they agreed about in their ratings. Nor were these the characteristics that were found to be significant in a closely related study (7). In short, while phenomenal agreement seemed to typify friends and phenomenal disagreement seemed to typify enemies, the things that friends and enemies agree and disagree about bear no relationship to the characteristics that showed up on our objective measure.

With regard to whether there is a tendency toward similarity or dissimilarity in friendships, our evidence seems to indicate that this is largely an irrelevant consideration; i.e., of 15 characteristics on the PPS, only two or three reached the level of statistical significance for any of our groups, and the evidence for similarity in the enemy pairs was as convincing as in the Very Best Friend and Friend pairs. On the phenomenal level there was considerably greater similarity in both of the friendship groups, and dissimilarity in the enemy group; however, here again there were many characteristics that seemed to be irrelevant to the similarity-dissimilarity thesis in human relationships.

While it is possible, of course, that there are some particular characteristics that are highly important to the formation of pairings (on the PPS for example, we found a correlation of .78 in Nurturance for Very Best Friends and .55 for Aggression for Enemies), there is scant evidence here to support general tendencies for similarity or complementary principles to predominate in objectively measured characteristics. And, of course, the type of statistical analysis carried out here does not permit us to determine whether some characteristics that are crucial in some pairings are not in others.

While our conclusions may be in part an artifact (*a*) of having chosen the wrong dimension to test these relationships, or (*b*) of our inability to determine the specific homogamies and heterogamies unique to a particular relationship (i.e., while for one pair a particular dimension may be unimportant for another pair the same dimension may be crucial, and this may be obscured in group data), it is also possible that our data do reflect the true state of affairs. Riesman (18) speaks of the predominance of the other-directed individual, an individual who desperately seeks the approval of his group and whose behavior is directed so as to gain the approval of the group. In such an individual there is likely to be a subtle depreciation of personality variables in favor of blandness (friendship here is a wonderful

"blandship") and a default to situational variables that will enable him to better "get along." Because the value systems of these persons are dormant or non-existent save for incoming signals of social status or the like, friendships for this kind of person may be most importantly affected by environmental circumstances, to be highly segmentalized and to lack real intimacy. The few statistically significant correlations we found, and their generally low magnitude, would certainly be congruent with this speculation. The great resistance to identifying an individual whom the subjects disliked, with the frequent comment that it is wrong to dislike others, would not challenge this interpretation.

Friendship today may be formed on a somewhat different basis than held true formerly. In a day when the population resided in isolated, rural areas, when people seldom saw persons who had not grown up with them or near them, when travel and communication were highly restricted, interaction with others was perhaps more highly prized, more intensively cultivated, and the personalities of individuals concerned were perhaps more highly committed in these relationships. But in another day, when travel and communication facilities are abundant and cheap, when social life has become fragmentized into innumerable secondary groups, such interactions as we have may find us less involved per unit of interaction. In fact, the contemporary man often speaks of "contacts" rather than friendships, and Riesman's other-directed individual may be capable only of such "contacts."

Such contrasts would involve little of personality, but would be greatly influenced by situational variables, would be quickly formed and quickly dissolved. The other-directed individual, we would expect, would be able to glide gracefully in and out of such relationships because he is not encumbered by unique, personal meanings. Because such relationships serve only a restricted psychological function for him, we should not expect to find support for psychological similarity or complementarity since here any single friendship would contribute only little to the individual's psychological economy.

It is also possible that friendships cannot be predicted from knowledge of the individual, that group behavior, as an emergent, is in principle not predictable from knowledge of the units that comprise the group. Certainly, empirically, there has been difficulty making predictions of group behavior from knowledge of the individuals involved (16, 20). Since the group is not an additive but rather an integrative phenomenon, friendships, as a group phenomenon, may not allow precise prediction.

## F. Summary

Independent pairs of Very Best Friends, Friends, and Enemies were identified on a college campus and were administered the Edwards Personal Preference Schedule and rating scales to determine whether there is similarity or complementarity in such relationships. A few statistically significant positive correlations were found for all groups for the PPS data, and a considerably greater number of significant correlations for the rating scale data, with agreements in perception of the relationships characteristically found for the first two groups and disagreements for the enemy group. These data were interpreted as less than compelling evidence for general tendencies toward either similarity or complementarity in friendships, and some speculations regarding Riesman's other-directed individual were offered.

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# THE CONCEPTUALIZATION OF TWO PERSONALITY ORIENTATIONS AND SOCIOMETRIC CHOICE*

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## A. INTRODUCTION

Research and theory in the area of group behavior have in general reflected two major orientations: first, a *personalistic* emphasis where the group members' personalities provide the independent variables and social behavior is predicted from them (10), and second, a *structural* orientation wherein personality variables are controlled in some fashion and a structural variable such as communication pattern, group size, or status provides the experimental factor (1). This is of course an oversimplified typology, as a number of writers have stressed both approaches (6, 7). At the same time it reflects a tendency in the field of group behavior to dichotomize personality and situational variables.

The purpose of this paper is to bring more sharply into focus the relationship between two selected personality dimensions—here to be called "dependency" and "personalness"—and a structural variable, sociometric choice. The general theory on which this is based has been set forth in detail elsewhere (3). Briefly, the core of this theory is that groups which meet over time in a relatively unstructured environment have to resolve two major issues, issues which represent invariant interpersonal tensions (2). The first of these is the area of group members' orientations toward *authority*, or more generally toward the handling and distribution of power in the group. The second is the area of members' orientations toward one another, in terms of closeness and intimacy. These areas are not completely independent of each other: a particular set of interpersonal orientations may be associated with a particular authority structure. But the two sets of orientations are as distinct from each other as are the concepts of power and love.[1] A number of writers have used them as a starting point for analysis of group behavior (4, 7, 10, 11).

The aspects of member personality involved in these two issues will be

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[1] Since this paper was written, we have found that these are orthogonal dimensions (Burke & Bennis, 1961).

called "dependency" and "personalness." The former consists of the member's characteristic behavior related to a leader or to a structure of rules. Members who find comfort in rules of procedure, an agenda, an expert, etc., are called "Dependents"; members discomfited by authoritative structures are called "Counterdependents."

The personal aspect consists of the member's characteristic patterns with respect to interpersonal intimacy. Members who require a relatively high degree of intimacy with all others are called "Overpersonal"; members who tend to avoid intimacy are called "Counterpersonal."

There are of course also those who are relatively free from compulsiveness and extreme behaviors in either direction. These "Independents," who are better able to assess the present situation realistically, may of course act at times in rebellious or submissive ways.

Usually dependency and personalness are thought of as linear dimensions, ranging from "Dependents" through "Independents" to "Counterdependents" and from "Overpersonals" through "Personals"[2] to "Counterpersonals." Another possibility exists, however: that there are also those who at different times show extreme tendencies toward both "Dependence" and "Counterdependence," or toward both "Overpersonalness" and "Counterpersonalness." Such people would be "conflicted"[3] in their overt behavior. In this case it would be incorrect to regard dependency and personalness as linear dimensions, since such "conflicted" persons would represent a combination of the two extremes. One of our interests in the present paper is to examine this question of the way that dependency and personalness should best be conceptualized.

It is postulated that these two orientations—toward authority and intimacy—exist as issues in all groups, and it is around these issues that the group structure crystallizes. Group members' orientations toward these issues determine, to a large extent, formation in terms of subgroups, loyalties, and communication. Thus our second interest is in the extent to which sociometric choice is influenced by these orientations.[4]

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[2] To avoid confusion, those who are independent with regard to personalness are referred to as "Personals" throughout this paper.

[3] Some points of view would consider that the extreme behavior of Dependents and Counterdependents, as of Overpersonals and Counterpersonals, also indicates conflicted motivational tendencies. While this may be true motivationally, the important point for present purposes is that in overt behavior the conflict is predominantly manifested in one direction.

[4] Of course, there are other determinants of sociometric choice in addition to personality variables. Sex, occupation, religion, status, age, etc., probably all enter into choice. However, we are interested here in the simple relationship between personality and choice.

Our major hypothesis can be stated generally: individuals of similar personality orientations will select each other sociometrically more often than they will select others in the group. Similarly, individuals will tend to reject others of an opposite personality orientation. Thus, if we consider only the Dependents as choosers (in terms of "liking"), we hypothesize that Dependents will choose relatively more Dependents than Counterdependents and will reject more Counterdependents than Dependents. Six more similar hypotheses can be generated by considering three other personality types as choosers (Counterdependents, Overpersonals, and Counterpersonals).

In order to collect data for this study, groups would have to be found where there would be sufficient latitude of personality expression for these dimensions to be identified. In addition, a controlled setting where sociometric data could be collected was another requirement. The summer laboratories of the National Training Laboratories at Bethel, Maine, (Burke and Bennis, 1961), provided an appropriate setting for this research. For three weeks, groups of about a dozen members meet every weekday for two hours under the guidance of a staff member (Trainer) and sometimes an assistant (Training Associate). These groups have as their main purpose the diagnosis and analysis of their own interpersonal behavior. In all of these groups, the issues of authority and intimacy provide important tensions for the group to resolve.

In Section I, procedures for and results of measuring the personality dimensions will be presented. Section II presents the results of the sociometric data and their relationship to the personality dimensions.

## B. Procedures and Results for Measuring Personality Dimensions

Since this was an exploratory study, highly refined techniques were not aimed at. The nature of the Training groups is such that there is a large amount of behavior by the group members from which the staff members could make estimates of the personality characteristics of present interest. Accordingly, at the end of each of the two laboratories[5] in the summer of 1956, the staff members were asked to rate each of the delegates in their group on Dependency, Counterdependence, Overpersonalness, and Counterpersonalness. Since the terms "Dependence," "Counterdependence," etc., were current among many members of the staff, the terms themselves were

[5] The two laboratories will hereafter be referred to as the first session and the second session.

not given for rating; instead the following descriptions were given to serve as the definition of the terms for this study.[6]

(Dependence): "a need to rely for support and direction on various structuring devices, such as the leader, the total group, or an established agenda";

(Counterdependence): "a characteristic somewhat compulsive rebellion against all or most forms of structure";

(Overpersonalness): "a somewhat indiscriminate need to establish and maintain close personal relations with virtually everyone, and to conduct group interaction on an intimate, personal level";

(Counterpersonalness): "a need to keep relations with other members of the group formal and impersonal and to conduct group interaction on a formal, impersonal level."

There was reason to believe that it would be easier for the staff members to give positive ratings for Counterdependency and for Overpersonalness; to try to balance this, the descriptions for these concepts were made somewhat more extreme than for the other two.

The staff members were asked to make their ratings on a three point scale: a rating of 2 when the description applied, a rating of 1 if it applied partially, and a rating of 0 for absence of the need or tendency.

### 1. *Ratings*

The ratings of the two staff members were added to give summed scores (ranging from 0 to 4) on each of the four characteristics.[7] The reliabilities of these summed scores, estimated by the (corrected) tetrachoric[8] correlations between the two raters, are given in Table 1, together with the mean and standard deviations.

The reliabilities might have been higher had the original ratings used more refined scales than three point scales.

Derived ratings for over-all dimensions of dependency and personalness were then arrived at as follows:

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[6] In a further effort to minimize the effect of any conceptions the staff members themselves might have about the terms, the ratings for Counterdependency and Overpersonalness were asked for on one day and those for Dependency and Counterpersonalness on the next.

[7] In the first session there were six Training groups with fourteen members each. However, one of the groups had only a single staff member regularly present. Thus only 70 of the 84 subjects can be considered for reliability. (In some cases this figure is reduced slightly where one of staff members omitted a rating.) In the second session there were eight Training groups with nine to thirteen members each—giving a total of 95 subjects. The reliabilities are therefore based on an N of 165 of the 179 subjects.

[8] Following the recommendations of McNemar (1955), p. 206.

TABLE 1
RELIABILITY OF RATINGS

| | Summed scores | | |
|---|---|---|---|
| | Mean | SD | Reliability |
| Dependency | 1.9 | 1.4 | .71 |
| Counterdependency | 1.2 | 1.1 | .59 |
| Overpersonalness | 1.6 | 1.2 | .67 |
| Counterpersonalness | 1.7 | 1.2 | .54 |

For dependency, the summed Dependence score had subtracted from it the summed Counterdependence score. This would give a range of scores from —4 indicating pure Counterdependence to +4 indicating pure Dependence. To avoid minus numbers, four was added to all scores. This gives a derived dependency score (D′) ranging from 0 (pure Counterdependency) to eight (pure Dependency) with a score of four indicating a balance between Dependency and Counterdependency scores. Similarly summed Overpersonalness minus summed Counterpersonalness plus four gives a combined personalness score (P′) ranging from 0 (pure Counterpersonalness) to eight (pure Overpersonalness) with a score of four indicating a balance between Overpersonalness and Counterpersonalness scores. Parameters for these derived scores are given in Table 2.

TABLE 2
RELIABILITY OF RATINGS

| | Derived scores | | |
|---|---|---|---|
| | Mean | SD | Reliability |
| Derived dependency (D′) | 4.6 | 2.2 | .73 |
| Derived personalness (P′) | 3.9 | 1.9 | .65 |

It will be recalled that a secondary interest of the present study was in the conceptualization of dependency and personalness; to examine (*a*) whether dependency and personalness are best considered as linear and unidimensional with dependency ranging from Dependence through Independence to Counterdependence, and personalness from Overpersonalness through Personalness to Counterpersonalness; and (*b*) the other possibility which would permit speaking of "conflicted" with regard to dependency or personalness, implying that Dependence and Counterdependence may occur in the same people, as may Overpersonalness and Counterpersonalness. It was to examine these two possibilities that we originally had the Trainers make four seperate ratings for each person rather than simply rate an over-all Dependency-Counter-

dependency scale and an over-all Overpersonalness-Counterpersonalness scale.

The linear unidimensional point of view would imply with regard to our ratings that anyone getting a positive rating (two or one) on the original Dependency ratings should get a zero rating on Counterdependency and vice versa. (There remain the Independents who get zero on both ratings.) The other viewpoint would argue that there may be "conflicted" persons who would get positive scores on both Dependency and Counterdependency. (The whole previous argument can be repeated in terms of Overpersonalness and Counterpersonalness.)

Some of the subjects *are* given positive scores on both Dependency and Counterdependency or on Overpersonalness and Counterpersonalness. It does not immediately follow that this gives the case to the "conflictedness" as against the unidimensional view. It is necessary to evaluate whether these "conflicted" ratings occur with better than chance consistency between different raters. This comparison is given in Table 3.

TABLE 3
BOTH SESSIONS COMBINED

| | | Trainer ratings | | | | | |
|---|---|---|---|---|---|---|---|
| | | Non-conflicted | Conflicted | Tot. | Non-conflicted | Conflicted | Tot. |
| Training associate ratings | Conflicted | 42 | 20 | 62 | 30 | 33 | 63 |
| | Non-conflicted | 83 | 17 | 100 | 72 | 30 | 102 |
| | Tot. | 125 | 37 | 162[a] | 102 | 63 | 165 |
| Dependence-Counterdependence $X^2 = 5.1$ $.02 < p < .05$ | | | | | Overpersonalness-Counterpersonalness $X^2 = 8.5$ $p < .01$ | | |

[a] Three ratings could not be classified.

"Conflicted" ratings are given with a consistency significantly above chance by the different raters. Although the relationship is not so strong as to be overwhelmingly decisive, this gives some evidence that some subjects cannot be adequately represented on a single over-all dimensions of dependency and personalness.

Accordingly, we treat hereafter these persons who obtained "conflicted" ratings from both staff members on Dependency and Counterdependency as a separate category ("Conflicted on dependency"). Similarly, those who got "conflicted" ratings from both raters on Overpersonalness and Counterpersonalness were treated as a separate category ("Conflicted on personalness").[9]

[9] We have also included those two getting a "conflicted" rating for the single group with one staff member.

For purposes for which a definite categorization rather than a distribution was needed, all others were categorized as follows: Those with derived dependency (D′) scores from 0-2 were classified as Counterdependent; D′ scores of 3-5 as Independent; scores of 6-8 as Dependent. (As just noted those with "conflicted" scores were classified as "conflicted on dependency" regardless of their D′ scores—most had D′ scores similar to the Independents with whom they would otherwise have been classified.) Similarly, those with derived personalness scores (P′) from 0-2 were classified as Conterpersonal, P′ scores 3-5 as Personal ("Independent" with regard to personalness), and scores of 6-8 as Overpersonal. Again, those with "conflicted" scores were classed as "Conflicted on personalness" regardless of their P′ scores. The distribution of all subjects into these types is given in Table 4.

TABLE 4
CLASSIFICATION AND "TYPES"

| All groups combined | | | |
|---|---|---|---|
| Dependents | 63 | Overpersonals | 39 |
| Counterdependents | 28 | Counterpersonals | 36 |
| Independents | 68 | Personals | 69 |
| "Conflicted" on dependency | 20 | "Conflicted" on personalness | 35 |
| Total N | 179 | Total N | 179 |

There are considerable differences between the composition of the different groups in terms of these different "types." This may be due to actual differences in personality composition or to differences between the raters in the frame of reference used for rating—probably to both.

*Further analysis of the conceptualization of dependency and personalness: the relation of dependency and personalness to each other.* The relation between dependency and personalness (however each may be conceptualized separately) has been little discussed—usually they are presumed to be independent (orthogonal) dimensions. Our data, however, give a different and interesting result. Correlations between the derived dependency (D′) and derived personal (P′) scores were: for the first session $r = -.37$ ("conflicted" cases excluded, $N = 63$) or $-.42$ (all cases, $N = 84$). The same general result is replicated in the second session: $r = -.58$ ("conflicted" cases excluded, $N = 67$) or $-.53$ (all cases, $N = 95$).

We may consider how much the theoretical relations between the two dimensions might have been reduced by the reliability with which they were rated. This correction for attenuation indicates that the relationship could

be a perfect one; the obtained correlation could not have been higher because of the lack of reliability in the ratings.

In other words, there is evidence for a substantial inverse relation between our derived dependency (D′) and personalness (P′) scores. Of course this could also result if the raters were judging in part the *same* thing in making their ratings.

Since the dependency (D′) and personalness (P′) scores are both derived scores—derived respectively from scores on summed Dependence and summed Counterdependence, and from summed Overpersonalness and summed Counterpersonalness—it is possible to examine in more detail in Table 5 where this over-all relationship comes from.

TABLE 5
CORRELATION COEFFICIENTS

| | Summed Counter-dependence | Summed Over-personalness | Summed Counter-personalness |
|---|---|---|---|
| *First Session* (Each correlation based on N = 84) | | | |
| Summed Dependency | —.44[a] | +.12 | +.64[a] |
| Summed Counterdependency | | —.02 | —.32[a] |
| Summed Overpersonalness | | | —.20 |
| *Second Session* (Each correlation based on N = 95) | | | |
| Summed Dependency | —.40[a] | —.13 | +.68[a] |
| Summed Counterdependency | | +.33[a] | —.22[a] |
| Summed Overpersonalness | | | —.25[a] |

[a] r significantly different from zero

There is pretty good agreement between the two sessions, except for the correlation between summed Counterdependence and summed Overpersonalness, which is near zero in the first session, but significantly positive for the second. By far the outstanding result of both sessions, however, is the positive relation between summed Dependency and Counterpersonalness, which clearly exceeds the absolute size of any of the other relations.[10] In particular it exceeds the size of the negative relation between Dependency and Counterdependency and between Overpersonalness and Counterpersonalness that is assumed in combining them into the derived dimensions of dependency and personalness. A factor analyst would say that rather than these two theoretical dimensions, the most important factor in the results is one combining Dependence and Counterpersonalness. That a combination of Counterdependence and Over-

[10] Once again the theoretical relationship could be a perfect one, if account is taken of the reliabilities.

personalness lies near the opposite end of this factor is fairly well indicated for the second session, but not so well for the first.

In considering the conceptualization of dependency and personalness, we have found some evidence: (*a*) that the two extremes of these qualities may be combined in "conflicted" behavior; and (*b*) that dependency and personalness are themselves related, primarily through the relation of Dependence and Counterpersonalness.

### C. Procedure and Results of Relationship Between Sociometric Choice and Personality Dimensions

At various meetings of the Training groups, the members were asked to make a series of sociometric choices among the other members. We shall confine ourselves here to two sets of these choices: where the member was asked to indicate those three members with whom he got along best, and those three with whom he got along least well. The results below consider these choices during the middle of the third and final week of the sessions when the sociometric structure was presumably as stable as it would ever be.

A preliminary problem concerns the method of evaluating the results. The compositions of the different groups in terms of the number of members in the different categories shows wide variation between different groups. This means that the possibilities of choosing members of a given category are widely different. In the extreme case there may be no members of a given category, say Counterdependents, in a group; this means that the Dependents in the group have no chance to either choose or reject any Counterdependents. In a less extreme case there might be one Counterdependent—here the Dependents can choose or reject a Counterdependent, but the Counterdependent cannot. This restriction that a person cannot choose himself affects the possibilities of choice in a group with less extreme composition: in a group with three Dependents and three Counterdependents, the Dependents could choose or reject three Counterdependents, while the Counterdependents could only choose or reject a maximum of two Counterdependents and would have to look elsewhere for their third choice.

The result is that the range of possibilities for choice shows wide differences between groups because of differences in group composition, and important differences for the different types within a group because of the restriction that a person cannot choose himself. This means that the probabilities against which we should evaluate the actual choices are extremely complex.

We have attempted to get around these difficulties in the following way: A given member of a group has the same range of possibilities for choice as for rejection. We can then consider whether he chooses more than he rejects of a certain type of group member, or whether he rejects more than he chooses.

The hypotheses can then be stated in the following way:

1. Dependents will tend to choose rather than reject other Dependents.
2. Dependents will tend to reject rather than choose Counterdependents.
3. Overpersonals will tend to choose rather than reject other Overpersonals.
4. Overpersonals will tend to reject rather than choose Counterpersonals.

These hypotheses can be extended to account for Counterpersonals and Counterdependents as choosers, where the same relationship as that stated above holds: people will tend to select rather than reject those of similar personality patterns, and to reject rather than select those of opposite personality patterns.

The first results shown in Table 6 concern the choices of the Dependents. We see that there is no direct evidence that Dependents tend to choose more than they reject other Dependents. On the other hand, there is evidence that they reject Counterdependents more often than they choose them. If

TABLE 6

BOTH SESSIONS COMBINED

| Dependents Choosing | |
|---|---|
| Choose more Dependents than reject | Reject more Dependents than choose |
| 16 | 16 |
| Choose more Counterdependents than reject | Reject more Counterdependents than choose |
| 8 | 22 |
| | $.05 < p < .10$[a] |

[a] By chi-square test

we combine the two effects to see whether Dependents relatively prefer other Dependents in comparison to their treatment of Counterdependents, the probability that the result is due to chance being between 5 per cent and 10 per cent gives some support to the combined hypothesis.

For the choices of Counterdependents, the results are more clear-cut. In Table 7 we see that the Counterdependents appear to both relatively choose rather than reject other Counterdependents, and to reject the De-

pendents more than they choose them. Testing the combined effect gives strong support to the hypothesis.

Turning to the personalness dimension, the results for the Overpersonals are also clear-cut. Here the Overpersonals (see Table 8) seem to both rela-

TABLE 7
BOTH SESSIONS COMBINED

| Counterdependents Choosing | |
|---|---|
| Choose more Counterdependents than reject<br>15 | Reject more Counterpersonals than choose<br>2 |
| Choose more Dependents than reject<br>3 | Reject more Dependents than choose<br>14 |
| $p < .002$[a] | |

[a] By the Fisher-Yates exact probability test

tively choose other Overpersonals, and relatively reject Counterpersonals. If we test the combined effect by the four-fold table, we again find strong support for the combined hypothesis. Both effects are in the right direction, but they are weak ones. (See Table 9.) The combined effect tested in a four-fold table yields a probability of 30 per cent to 50 per cent that the

TABLE 8
BOTH SESSIONS COMBINED

| Overpersonals Choosing | |
|---|---|
| Choose more Overpersonals than reject<br>14 | Reject more Overpersonals than choose<br>4 |
| Choose more Counterpersonals than reject<br>4 | Reject more Counterpersonals than choose<br>18 |
| $p < .005$[a] | |

[a] By chi-square test

TABLE 9
BOTH SESSIONS COMBINED

| Counterpersonals Choosing | |
|---|---|
| Choose more Counterpersonals than reject<br>8 | Reject more Counterpersonals than choose<br>4 |
| Choose more Overpersonals than reject<br>13 | Reject more Overpersonals than choose<br>14 |
| $.30 < p < .50$[a] | |

[a] By chi-square test

result could be due to chance. This gives poor support to the combined hypothesis.

### D. Discussion

Considering only the combined effects for the sociometric choices by the four personality types of interest, all four results tend to go in the right direction; two of them are clear-cut statistically, one at the borderline of statistical significance, and one is relatively poor. In view of the many factors that undoubtedly influence sociometric choice besides the two personality characteristics we have considered here—tendencies to choose on the basis of sex,[11] age, or other factors that would prevent the hypothesized tendencies from acting alone—it seems that it has nevertheless been possible to single out a factor of some importance.

We note that the poorest results were for the choices of the Counterpersonals and the next poorest those for the Dependents. The very nature of Counterpersonalness—a need to keep relations with other members formal and impersonal—would seem to make them less likely as objects of sociometric liking. There is some evidence that in fact Counterpersonals tend to be rejected more than chosen by everyone else (by Personals and the "Conflicteds" as well as by the Overpersonals). By contrast the Overpersonals are by definition eager for close relations with everyone.

As for the Dependents, although dependency is not as directly related to liking, we have seen that the Dependents were most often Counterpersonals (see the correlations of Table 4), so that the same argument could be extended to them.

We have attempted to explore in this paper the relationship between personality dimensions and group structure. Theoretical considerations led us to hypothesize that members' orientation toward authority and intimacy (conceptualized here as dependency and personalness) contribute toward subgroup formation within the group. Members who are similarly affected by these group issues will tend to band together and in addition tend to reject those other members associated with the opposing orientation.

We have also found some evidence that the two personality orientations are not linear dimensions but rather should be so conceptualized as to permit a combination of the two tendencies involved. For example, Overpersonalness and Counterpersonalness are not simply opposites, but may occur together. Indeed, the "conflicted" individual is one who manifests both types of behavior to an unusual degree.

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[11] Holding sex constant, the basic pattern claimed here is maintained.

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# RELATIONSHIPS BETWEEN INTEGRATED AND UNINTEGRATED MOTIVATION STRUCTURE EXAMINED BY OBJECTIVE TESTS*

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## A. INTRODUCTION

The distinction between conscious and unconscious aspects is implicit in most studies of motivation. Unfortunately until the objective motivation test was introduced by Cattell and Miller (8), Cattell and Baggaley (6) there were few operational methods for examining differences expressed in content relationships. Cattell and Baggaley (7) analyzed manifestations of motivation in adults as reflected by factor patterns between objective motivation devices. The five resulting primary motivation components were grouped by second order analysis to yield a pattern suggesting an integrated factor and an unintegrated factor. These results were essentially replicated in children by Cattell, Radcliffe and Sweney (9).

The factor analysis of interest in attitudes was demonstrated by Cattell and Cross, Miller (8), and Baggaley (7) to yield factors comparable to drive states such as hunger, sex, aggression, assertion and others. The purpose of this study was to investigate similarities and differences in the dynamics structures established by utilization of integrated objective motivation test instruments as opposed to those measured by unintegrated measures.

## B. PROCEDURES

### 1. *Subjects*

Three hundred sixth grade public school children served as subjects. They were selected from a large and a small urban area in the Midwest. The sample was predominantly white and representative of the range of socio-economic status in the two communities. In both school systems sixth grade is the terminal year in elementary school prior to entering junior high school.

### 2. *Attitudes Measured*

Sixty attitudes were selected for this study to cover in a general way the range of the children's experience. Each attitude was created as a basic

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unit of motivation containing both an ultimate goal (explicit or implicit) and an instrumentality for its achievement. Goals and instrumentalities were matched by seven judges prior to the selection of attitudes since the distribution of combinations of goals and instrumentalities were desired to reflect those most typical of preadolescent children. Utilizing these results the specific attitudes were selected from a pool of attitudes. Motivation Test Devices:

Two batteries of tests were administered. One battery consisted of three integrated motivation devices, Information, Paired Words and Skeletal Words. The unintegrated battery included Autism, Hidden Pictures, Decision Time, and Memory. The tests were interspersed to randomized function fluctuations related to time of administration.

The Information test consisted of seven items for each of the 69 attitudes. The questions were of a factual nature related to means-ends behavior where possible. The correct answer was one of four given responses. This measure of effective knowledge concerning an instrumentality for satisfying a need or erg has been shown by the studies cited to load the Beta factor identified as the ego.

The Paired Words test utilized the word association principle, but presents a specific pair of words from which to choose a response to a stimulus word. Ten response words were available for each of the 60 attitudes. Balanced design provided that the same two attitudes would never be paired more than once. This test has consistently loaded the Gamma or super-ego factor which implied an "I ought to" quality to motivation.

The Skeletal Words test was composed of words from which letters were omitted. Two pages of ten words each were available for each of the sixty attitudes. Thirty seconds were allowed for each page and only the last page was scored. This test loads the Eta motivation component which has been identified as being related to the persistence of an attitude in face of symbolic satisfaction.

Autism, or wishful thinking, has loaded the Alpha component which seems associated with hedonistic motivation or the id. This test involves quantitative questions so obscure that guessing is required. The five response quantities are graduated and thus can be ranked as to degree of distortion each represents in the direction related to fulfillment of interest in an attitude. Five items for each of the 60 attitudes were utilized in this test.

The Hidden Pictures test consisted of 20 composite drawings in each of which were 15 hidden objects or people symbolic of the 60 attitudes being measured. The subjects were allowed to list the objects while the projected

picture was still visible. The order of mention served as a basis for weighting the attitudes' occurrence. The visual attention has been one of the few manifestations of motivation which can be measured by group techniques, but which has loaded the Delta or physiological factor.

The test of impulsivity, as the Zeta factor of the Cattell, Radcliff and Sweney was identified, is Decision Time on consensus items. This test was adopted for this study by measuring time elapsing for answering ten non-controversial questions on each of the 60 attitudes. The subjects recorded the member of the regularly increasing series presented at the end of each of the blocks of questions. Subtraction of these numbers thus yielded the number of seconds utilized for each attitude.

The Memory test has been found in the component studies to be related to the Epsilon component. This factor has been suggested to be related to repressed conflicts since the manifestations seem to reflect the differential memory aberrations often associated with repression. Five cue words for each attitude were interspersed and projected in 30 groups of ten words each. After each 20-second exposure the subjects were given 40 seconds to select the words seen from a 25-word list.

### 3. *Administration*

The six-hour testing period for the two batteries was distributed over two consecutive half days with a supplementary hour test on a following week. The subjects were tested in their own classrooms by psychologists. The classroom teacher assisted only in minor manners. Instructions were read aloud and, where possible, the subjects were packed by the test administrator reading the questions aloud also.

### 4. *Scoring*

All the tests but Skeletal Words and Hidden Pictures utilized IBM Standard Machine scoring answer sheets. Overlay keys and hand-scoring were chosen to provide maximum speed and accuracy for the small number of answers which were scored for each attitude.

Skeletal Words was measured by number of correct words completed on the second half of each attitude. Hidden Pictures involved the summation of the weighted score obtained for a given attitude in each of its five appearances. The Decision Time was the quantity calculated and used for analysis relatively unaffected by the number of correct responses recorded on the answer sheet. A number of papers were rejected, however, when a wrong key indi-

cated that more than a third were missed, thus approaching the half which would be chance performance on a dichotomous question.

### 5. *Statistical Analysis*

The raw score matrix for each of the seven tests was ipsatized. This was accomplished by standardizing the 60 attitude scores for each subject. The tests were thus reduced to the same metric. Single integrated scores for each person on each attitude were the sum of the standard scores for the three integrated tests. Unintegrated and total score matrices were formed by similar appropriate summations.

Each of the three standard score matrices was solved for product moment correlations on the computer. These matrices were in turn factored for 22 centroid factors (a limit imposed by size of computer and not by analytic methods for determining appropriate number of factors). The factors were rotated by Oblimax and 14 subsequent visual rotations to yield maximum simple structure.

### 6. *Hypotheses*

*a.* The factors obtained by analyzing interests in attitudes will yield drive entities identifiable as ergs or sentiments.

*b.* The structure will essentially include the same factors found by Cattell and Baggaley in adults since both studies include a general sampling of attitudes.

*c.* The ergs will be clearest in the unintegrated measurement and the sentiments clearest in the integrated measurement.

*d.* Differences in attitude composition in Integrated, Unintegrated and Total factor structures can be explained by clinical theory concerning individual measuring of the attitudes.

## C. Results

The rotated vector structure has been used in this study and its predecessors to identify factors. The positive attitudes have been listed in the order of their loadings with the negative ones listed separately. All loadings of .19 or over have been included even though often not replicated in more than one of the three studies reported here.

## D. Discussion

Inspection of the three factor matrices as compared factor by factor reveals that even though a consistent meaning can be given each factor there are few

replications of variables throughout all three studies. This raises both technical and theoretical problems for motivation measurement.

The motivation component studies by Cattell and Baggaley and Cattell, Radcliffe, and Sweney all point to consistent differences between the behaviors of various devices in measuring motivation. Without this organized variance motivational components could not exist. The problem therefore prior to this study was how to exploit these differences to obtain a clearer picture of the dynamic operation of motivation and how to suppress it in order to crystalize and concretize some universal motivation structure.

The lack of comparability variable by variable, but the interpretability of the structures in view of the same ergs and sentiments indicates that very likely the search for a single motivation structure may prove futile. The indications seem increasingly strong indicating that this structure does exist in a supra-dimensional form. An intersection of the motivation solid at any instrument or device level would yield a factor structure varying quantitatively from any other but maintaining a finite number of identifiable features which can be found in all other structures. In this way it is suggested that all devices would yield the same qualitative ergs and sentiments, defined by differing proportions of various attitudes.

The study failed to support the hypothesis that the structure of sentiments would be clearer when measured by integrated devices and that of ergs more clear in the unintegrated realm. This consideration therefore seems not to be pertinent in the comparison of dynamic structures at this stage of development. It becomes more apparent that further investigation of dynamic structure must be made to ascertain whether the differences of dynamic structure between modes of measurement are fact or artifact. The low saturation of experimental instruments in this case would support doubts whether the test items in one device measured the interest strength as adequately as did the items for the same attitude in another device.

The more general hypotheses and aims of the study were supported. The factor structures were nearly all interpreted in terms of motivation areas and replicated those found in studies of adults. Subsequent studies being carried out by Cattell and Butcher on portions of this total battery are already far enough advanced to confirm the stability of factor structures obtained by these measures.

## E. Summary and Conclusions

A study was made of 60 attitudes measured by seven test devices with a population of 300 sixth grade school children. The results were analyzed

FACTOR COMPARISONS BETWEEN
INTEGRATED, UNINTEGRATED AND TOTAL MOTIVATION
Cattell, Sweney — 1960
(N — 300)

| *Factor 1 (Sex Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to spend more time with my girl or boy friend. | .34 | .41 | .52 |
| I want to dress to impress the opposite sex. | — | .34 | .38 |
| I want to go to parties where couples are invited. | — | .34 | .38 |
| I want to go to love movies. | — | .29 | .29 |
| I want to think about marriage. | .25 | — | — |
| *Factor 2 (Narcissism)* | Int. | Uni. | Tot. |
| I want to go to love movies. | .22 | — | .37 |
| I want to have a handsome face and figure. | .22 | .44 | .34 |
| I want to have nice clothes (to take care of.) | — | (.16) | .25 |
| I want to dress to impress the opposite sex. | .34 | .27 | .21 |
| I want to watch (or be?) comedians. | .23 | — | .30 |
| I don't want to take care of pets. | —.29 | — | (—.16) |
| I don't want the U.S. to protect small countries. | —.38 | — | — |
| *Factor 3 (Pugnacity Erg)* | Int. | Uni. | Tot. |
| I want the U.S. to beat its enemies. | .39 | .35 | .34 |
| I want to get even with other kids. | .34 | — | .38 |
| I want to go home and rest. | — | — | .41 |
| I want to play practical jokes. | — | — | .21 |
| I want to see monster and science fiction shows. | .21 | .42 | — |
| I don't want my teacher to like me. | —.32 | — | — |
| I don't want to think about marriage. | —.26 | — | — |
| I don't want to eat sweets Mother makes. | —.23 | — | — |
| *Factor 4 (Construction Erg)* | Int. | Uni. | Tot. |
| I want to help by working. | — | .20 | .29 |
| I want to learn jobs from Mother and Father. | — | .38 | .26 |
| I want to get merit badges (by making things) in Scouts. | — | .26 | — |
| I want to go on picnics. | — | .27 | — |
| I want to take things apart to see what makes them work. | .20 | — | .48 |
| I want to make projects in school. | .49 | — | (.15) |
| I don't want to play games with friends. | — | —.26 | — |
| I don't want to read about the world. | —.44 | — | — |
| *Factor 5 (Acquisitive Erg)* | Int. | Uni. | Tot. |
| I want to get merit badges. | .34 | — | — |
| I want to dress to impress the opposite sex. | .33 | — | — |
| I want to have a good collection. | .29 | .20 | — |
| I want to have nice clothes. | .21 | .27 | .27 |
| I want to save money in a bank. | — | — | .22 |
| I want to pray for God's protection (and service?). | — | .27 | — |
| I want to have possessions. | — | — | .24 |
| I don't want to get even with other kids. | — | .28 | — |
| I don't want to draw pictures. | — | —.36 | — |
| I don't want to be polite to adults. | — | —.26 | — |

| *Factor 6 (Gregarious Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to spend time with friends. | — | .45 | .33 |
| I want to pray to God. | — | .22 | — |
| I want to have more holidays. | — | .35 | — |
| I want to go to games with friends. | — | — | .39 |
| I want to go to parties with refreshments. | .33 | — | — |
| I want to go to parties where couples are invited. | .41 | — | — |
| I want to spend more time with girl or boy friend. | .28 | — | — |
| I want to listen to records (music). | .24 | — | — |

| *Factor 7 (Assertive Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to read comics. | .33 | — | — |
| I want the U.S. to beat its enemies. | .30 | .26 | — |
| I want to grow up normally. | .28 | — | — |
| I want to go to Mother if things go wrong. | .26 | — | — |
| I want to see westerns and adventure stories. | .23 | — | .35 |
| I want to have a good reputation. | .20 | .20 | — |
| I want my team to win. | — | .30 | .39 |
| I want the U.S. to protect small countries. | — | .21 | — |
| I want to learn about science. | — | — | .26 |
| I don't like arithmetic. | — | —.47 | — |

| *Factor 8 (Security — Fear Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to go to Mother if things go wrong. | — | .35 | .43 |
| I want to grow up normally. | — | — | .31 |
| I want to save money in a bank. | — | .25 | — |
| I want my teacher to like me. | — | .30 | — |
| I want to be safe at home. | .22 | — | — |
| I don't want my team to win. | —.27 | — | — |
| I don't want to eat sweets Mother makes. | — | —.42 | — |

| *Factor 9 (Curiosity Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to learn about the world of science. | .30 | .37 | .40 |
| I want to go to games with friends. | .27 | — | — |
| I want to solve puzzles. | .23 | — | — |
| I want to worship God. | .20 | — | — |
| I want to take things apart to see what makes them work. | — | .24 | — |
| I want to think about marriage. | — | .25 | — |
| I don't want to pretend when I study geography. | —.23 | — | — |
| I don't want to read fairy tales. | —.21 | —.27 | — |
| I want my pictures to be beautiful. | — | — | .38 |
| I want to grow up. | — | — | .28 |

| *Factor 10 (Parental Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want nice clothes. | .36 | — | — |
| I want a pet to take care of. | .33 | .28 | .38 |
| I want my siblings to mind me. | — | .56 | — |
| I want to help around the house. | — | — | .21 |
| I want to save money in a bank. | — | .25 | — |
| I want to grow up normally. | — | — | .29 |
| I don't want good grades in arithmetic. | —.22 | — | — |
| I don't want more holidays. | —.24 | — | — |

| *Factor 11 (Hunger Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to eat well. | .41 | .24 | .31 |
| I want to eat sweets Mother makes. | .22 | — | — |
| I want to be safe at home. | .22 | — | — |
| I want to go on picnics. | — | — | .31 |
| *Factor 12 (Self Sentiment, Social)* | Int. | Uni. | Tot. |
| I want to maintain my self respect. | .33 | .21 | — |
| I want a good reputation. | .33 | .37 | .26 |
| I want the U.S. to protect small countries. | .25 | — | .20 |
| I want to be liked. | .22 | — | .32 |
| I want to be normal. | — | .30 | (.15) |
| I don't want to be polite to adults. | —.24 | — | — |
| I don't want my teacher to be fair. | —.31 | — | — |
| *Factor 13 (Self Sentiment, Super Ego)* | Int. | Uni. | Tot. |
| I want to have self control. | .48 | .24 | .36 |
| I want to admire and respect Father. | .28 | .21 | .35 |
| I want to grow up normally. | .22 | — | .35 |
| I want to hear Fathers jokes. | .20 | — | .22 |
| I want a good reputation. | — | — | .22 |
| I want to spend time with my siblings. | — | .38 | — |
| I don't want to listen to records. | —.21 | — | — |
| *Factor 14 (Patriotism Sentiment)* | Int. | Uni. | Tot. |
| I want the U.S. to beat its enemies. | .36 | .32 | .45 |
| I want my team to win. | .36 | .23 | .37 |
| I want the U.S. to protect small countries. | .30 | .29 | .35 |
| *Factor 15 (Religion Sentiment)* | Int. | Uni. | Tot. |
| I want to pray to God. | .33 | — | .31 |
| I want to worship God. | .32 | .33 | .38 |
| I want the U.S. to protect small countries. | .25 | — | — |
| I want to admire and respect my father. | .23 | — | — |
| I want my pictures to be beautiful. | — | .43 | — |
| *Factor 16 (Amusement Sentiment)* | Int. | Uni. | Tot. |
| I want to see love movies. | .28 | .20 | — |
| I want to see westerns and adventure stories. | .27 | .32 | — |
| I want my team to win. | .26 | — | — |
| I want to read comics. | .23 | — | — |
| I want to spend more time with my girl or boy friend. | .23 | — | — |
| I want to watch (or be like) comedians. | — | .23 | — |
| I want to go to parties. | — | .38 | — |
| *Factor 17 (Play Phantasy)* | Int. | Uni. | Tot. |
| I want to see monster and science fiction shows. | .25 | .32 | .45 |
| I want to learn about science and the world. | .33 | — | — |
| I want to have plenty of games. | .25 | .33 | .38 |
| I want to read comics. | .23 | — | (.17) |
| I don't want to grow up. | —.27 | (—.17) | —.31 |
| I don't want my siblings to mind me. | —.38 | — | — |
| I don't want to think about marriage. | — | —.32 | — |
| I don't want to read Fairy Tales. | — | —.40 | — |

| *Factor 18 (Self Indulgence, Sensuality Erg)* | Int. | Uni. | Tot. |
|---|---|---|---|
| I want to eat well. | .31 | — | — |
| I want to be safe at home. | .20 | — | — |
| I want to dress to impress the opposite sex. | — | .41 | — |
| I want to have more holidays. | — | .38 | .44 |
| I want to watch (or be like) comedians. | — | .25 | — |
| I don't want to maintain my self respect. | —.24 | —.23 | — |
| I don't want to have self control. | — | — | —.20 |

after combining standard scores according to the realms found in second order component analysis of measurement devices. The integrated study included the paired words, information, and skeletal words devices. The unintegrated study consisted of autism, hidden pictures, decision time and memory.

After centroid factor analysis and rotation to simple structure, the results indicated that nearly all of the factors were interpretable in terms of motivational drive units. Although the general meaning was replicated among the three studies, exact attitude constituency was not. This unexpected result raises the question whether it isn't both theoretically and operationally possible to have different motivational structure on the conscious integrated and preconscious unintegrated levels.

These data suggest therefore that studies directed toward ascertaining these differences might prove fruitful.

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# THE RELATIVE QUALITY OF DECISIONS WRITTEN BY INDIVIDUALS AND BY GROUPS AS THE AVAILABLE TIME FOR PROBLEM SOLVING IS INCREASED* [1, 2]

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## A. INTRODUCTION

In education, in industry, and in the military there is a definite trend towards having decisions made by groups and, thus, away from having decisions made by individuals.

In general, management believes that the psychologists have demonstrated the superiority of decisions by groups over those made by individuals; and, conversely, psychologists asume that the reason industry and government use the method of groups in making decisions is that they have found the method superior. In some instances, the expresed belief is that the group members will feel not only a greater sense of participation in, but also a greater commitment to, the decision made by the group, than to an individual's decision given to the group to put into effect. In other instances, the group is believed to produce decisions or solutions superior to those produced by individuals.

The literature (4) however, indicates that experimental studies cited in support of group superiority are far from conclusive; indeed, any generalization about either individual or group superiority must be held in abeyance.

Basically, the published conclusions about the superiority of groups in solving problems come from researches in which the problem is a puzzle and the groups are formed *ad hoc*. Since the puzzle always has a known and knowable solution, the value of its solution is academic. The genuine need is to estimate the relative superiority of groups over individuals in solving problems for which the solution is not either known or ever completely knowable. It would, of course, be desirable to test the superiority of traditional groups, such as a board of directors against that of the individual

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2 The complete text of the problem used in this study has been deposited with the American Documentation Institute. Order Document No. ——, remitting $—— for 35 mm. microfilm or $—— for 6 by 8 in. photocopies.

executive who makes the decisions for his firm. Such contrasting successful teams and successful executives are not readily available to research investigation, and when they are available it is primarily for process in solving problems rather than for the solution itself.

In the past few years, Lorge et al. (2) have estimated the superiority of individual versus *ad hoc* group decisions and problem solving about complex, realistic human relations problems. In these studies, officers of the Air University, Maxwell Air Force Base, in training for higher level military assignment, were required to solve one of several human relations problems. Some officers worked as individuals, while others worked in six-man *ad hoc* groups. Neither those working as individuals nor those working in *ad hoc* groups had received instruction in group dynamics or had ever worked together before.

For the conduct of the research on group and individual problem solving, the Air University could only allot a 100-minute period. Usually, the experiments were structured so that in the first 50-minute period, random halves of the class solved one problem as either individuals or as groups, and in the second period they solved a different problem reversing roles, i.e. individuals from the first period were formed into six-man *ad hoc* groups to solve the second problem, and the members of first period *ad hoc* groups solved the second problem as individuals.

For decisions written during the first 50-minute period, the quality of decisions by individuals was significantly superior to that of decisions by groups. During the second 50-minute period, after the subjects had reversed roles, no significant difference was found between the quality of decisions by individuals and by groups.

It was concluded that when individuals and *ad hoc* groups, relatively naive in group interaction and problem solving techniques, decide realistic, complex problems in a short period of time, the quality of individual decisions will be superior, on the average, to the quality of group decisions. After 50 minutes experience in problem solving, however, no significant difference was found between the quality of individual and group decisions, suggesting some transfer from the first to the second period.

One possible basis for the superiority of individuals over groups is that the 50 minutes for making decisions available to *ad hoc* groups was not adequate for the groups to organize and function, as individuals could and did. If this be so, the relatively poorer quality of the group may not be so much a consequent of the inability of groups in general or of *ad hoc* groups in particular as it may be due to sheer lack of time.

Moreover, the difference between decisions written in the first and second period suggests that training and experience in group dynamics and problem solving may significantly affect the generalizations about group vs. individual quality.

To study the effect upon the relative quality of decisions by individuals and by groups of both increasing the time available for making decisions and of providing training and experience in group dynamics, the current research was initiated. The procedure developed in the Lorge studies was used in general except that individuals and groups were compared when 50, 75, and 100 minutes were available for making decisions, and before and after a six-month course of instruction at the Air University, which emphasized training and practice in group problem solving.

## B. Subjects

All subjects were officer-students in the Field Officers' Course of the Air University, Maxwell Air Force Base, Alabama. The Field Officers' Course, hereafter referred to as the FOC, is a six months course for educating, Air Force officers to perform the functions of field officers in the Air Force. About half of the instruction deals with technical aspects of the administrative duties of the Field Officer, and half with problem solving in small groups or staffs with emphasis upon group dynamics, group organization and group problem solving. The instruction is not only theoretical but provides abundant practical experience in group problem solving.

The officers sent to take the FOC who were at Maxwell AFB before participating in any formal class work are the subjects designated as tested *before course instruction*. The officers who went through the instruction at the FOC will be designated as tested *after course instruction*.

## C. Method

Each officer-student was notified by official orders placed in his mail box to report to one of three auditoriums (if he was to work as an individual) or to one of 33 cubicles designed for small group meetings (if he was to work in an *ad hoc* group).

All subjects were given one of the same human relations problems used by Lorge et al., a problem asking for a plan to improve the morale and operating efficiency of men stationed at isolated weather stations in the Arctic. The problem statement given the subjects discussed the difficulties of functioning in the Arctic, and the particular problems of staffing the four outposts, their limited physical and recreational facilities and the problems of

supplying them during the long winter when flying is often impossible. The problem also specified the budget and facilities available for developing the action plan.

Officers working as individuals had been ordered to one of the three auditoriums, a separate one for those who would be allowed 50 or 75 or 100 minutes in which to write decisions. In each auditorium a brief orientation to the task was given orally, then the printed problems were distributed and the officers were told the amount of time available for planning and writing the decision. Of course, none of the officers in any one auditorium knew that others were working with different time limits, nor could they know when the officers in other auditoriums finished.

Each member of each pre-designated group had been ordered to report to separate and isolated cubicles. Written instructions were left on the work table in each cubicle. The instructions included the same orientation that had been given to individuals orally, the printed statement of the problem, and the specification of the amount of time available. No group knew that other groups had been given different amounts of time, nor could they know when the other groups finished.

All decisions from groups or from individuals were scored by the Quality Point Score or QPS, an objective method for scoring rational decisions developed in the Lorge study (3). The QPS consists of a content analysis for recording the ideas in each decision about the particular problem, and a scoring system to give a weighted credit for each independent idea.

The content analysis categories were developed after an examination of a large sample of decisions written about a particular problem. The content analysis for Problem B, for example, is based on over three hundred decisions. The Quality Point Score is based on the assignment of scores for possible points represented in a content analysis for the particular problem. Since the different points and subpoints differ in value for the ultimate resolution of the problem situation, a score ranging from .0 to 2.5 was assigned each different point, by averaging the scores given it by four independent judges. The final score for the decision is the sum of values given the points written. This is the Quality Point Score or QPS.

The objectivity and reliability of the scoring of the QPS is estimated from the agreement among analysts. By objectivity is meant agreement between independent content analysts on the points in any one decision. The reliability can best be estimated from the correlation between the QPS of independent analysts. Lorge et al. report objectivities for Problem B in excess of .80, and reliabilities in excess of .90, indicative of unusually high agreement among analysts (3).

In addition to the general reliability of the method, test-retest reliability of any one scorer is high. A random sample of 50 decisions was rescored by the same analyst one year after the first scoring. The rank order correlation between the two sets of 50 scores was .94, and the means and standard deviations of the two sets of scores was invariate.

The validity of the QPS rests on the assumption that summing the individual quality values for each unduplicated idea in a decision gives a valid estimate of the overall quality of that decision. The ultimate validity of the QPS can only be judged in terms of the actual consequences of putting into force each decision as made. Such a procedure is, of course, beyond the realm of possibility. It is hardly possible to carry out three hundred or more solutions to Problem B. The best substitute for such actual tryout, was the judgment of experts as to the feasibility and eventual outcome of each solution.

To investigate the validity of the QPS, colonels at the Air War College,[3] Maxwell Field, Alabama, ranked sets of 25 decisions. There were 16 judges for each set of 25 decisions. The average of the 16 rankings was used as the criterion of over-all goodness. Lorge et al. report correlations of .84 and .87 between this criterion, and rank by QPS, for two samples of decisions about Problem B (3).

The QPS is also a sensitive instrument. In the Comptrollers Course at the Air University, a twelve weeks course, the QPS method was sensitive enough to give evidence about statistically significant changes in the quality of decisions written by groups before and after instruction.

In addition to the above checks on objectivity, reliability, validity, and sensitivity of the QPS, a check was made of the reasonableness of the weights assigned to the points in the content analysis.

A sample of 15 different points in the content analysis for Problem B was given to 379 officers in the Field Officers' Course, who previously had written solutions to Problem B and now were asked to evaluate the 15 points on a scale of .0 to 3.0 in which 0 was defined as "of no value to a solution, may be detrimental" and 3.0 defined as "one of the first points that I would implement." For five of the 15 points, the average of the 379 values was the same as that assigned the point in the content analysis. For seven points, the difference was less than 0.5. The other three differed .6, .9, and 1.0.

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[3] The Air War College is one the schools of the Air University. It provides specialized training for Colonels who have been recommended as candidates for high level command positions.

The experimental design was made to get evidence not only about the effect of different time allotments but also the effect of training in group problem solving. The primary hypotheses were: that *before course instruction* the increase in the amount of time available for writing decisions would not affect the quality of decisions by individuals but would lead to improved quality of decisions by groups; *after* six months of instruction including training and practice in group problem solving, the quality of decisions by groups would be superior to the quality of decisions by individuals at the three time intervals studied.

*Before course instruction* solutions were obtained from individuals and from groups that had been allowed either 50 or 100 minutes for problem solving. *After course instruction* results were obtained from individuals and from groups allowed 50, 75, and 100 minutes for problem solving. Hereafter, individuals and groups given 50 minutes *before course instruction* will be designated I-50-B and G-50-B, respectively; those given 100 minutes before course instruction will be designated I-100-B and G-100-B respectively.

Individuals and groups given 50 minutes *after course instruction* will be designated I-50-A and G-50-A; those given 75 minutes will be designated I-75-A and G-75-A, and those given 100 minutes as I-100-A and G-100-A.

Data for individuals and groups given 50 minutes before course instruction (I-50-B and G-50-B) were already available from previous studies (2) by Lorge et al., with one class at the FOC. All other data were obtained from two other classes of the FOC. The distributions of the three FOC classes used on variables like rank, age, and civilian education indicate that the three classes can be considered equivalent populations. The assignment of who was to work in a group and who as an individual was made randomly, and the samples within each class did not differ significantly in any of the three background factors.

## D. Results

Table 1 reports the number of groups and individuals who turned in completed papers before the full time had elapsed, by time interval. Presumably the data reflect the actual time that groups and individuals worked. The results show that those allotted more time handed their papers in later, and presumably worked longer. For example, all of the G-100-B took the full one hundred minute period, as opposed to the fifty minutes available to G-50-B.[4] Similarly, after course instruction, all of the G-75-A and G-100-A

[4] Specific completion times are not available for I-50-B and G-50-B, since time was not a variable in the earlier Lorge studies from which these data were obtained.

TABLE 1

THE NUMBER AND PER CENT OF INDIVIDUALS AND OF GROUPS WHO TURNED IN COMPLETED PAPERS AT EACH SPECIFIED TIME INTERVAL, FIELD OFFICERS COURSE, BEFORE AND AFTER COURSE INSTRUCTION, BY TIME ALLOTTED

| Designation[a] | Stat. | Total N | Time when papers are handed in, in minutes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15-20 | 21-25 | 26-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-75 | 76-80 | 81-90 | 91-100 |
| G-100 B | N | 11 | | | | | | | | | | | 11 |
| | % | | | | | | | | | | | | 100 |
| I-100 B | N | 60 | | | 1 | 4 | 10 | 14 | 11 | 6 | 5 | 3 | 6 |
| | % | | | | 2 | 7 | 17 | 23 | 18 | 10 | 8 | 5 | 10 |
| B-50 A | N | 11 | | | | | 11 | | | | | | |
| | % | | | | | | 100 | | | | | | |
| G-75 A | N | 11 | | | | | 1 | 2 | 1 | 7 | | | |
| | % | | | | | | 9 | 18 | 9 | 64 | | | |
| G-100 A | N | 11 | | | | | | | 1 | 1 | 1 | 2 | 6 |
| | % | | | | | | | | 9 | 9 | 9 | 18 | 55 |
| I-50 A | N | 80 | 5 | 19 | 38 | 14 | 4 | | | | | | |
| | % | | 6 | 24 | 47 | 18 | 5 | | | | | | |
| I-75 A | N | 83 | | | 15 | 25 | 18 | 18 | 5 | 2 | | | |
| | % | | | | 18 | 30 | 22 | 22 | 6 | 2 | | | |
| I-100 A | N | 77 | | | | 12 | 22 | 21 | 15 | — | 3 | 1 | 3 |
| | % | | | | | 16 | 29 | 27 | 19 | — | 4 | 1 | 4 |

[a] G refers to group; I to individual; the numbers to allotted time in minutes; B to before instruction at Field Officers Course; A to after instruction.

took more than 50 minutes, and nine of the G-100-A more than 75 minutes. A similar picture emerges for individuals. Both before and after course instruction those given more time can be presumed to have worked longer.

The data in Table 1 show group vs. individual differences as well. At each time interval, the groups worked longer than the corresponding individuals. For example, all 11 G-100-B worked for the full period, compared to ten per cent of the I-100-B. Similarly, after course instruction, from 48 per cent to 95 per cent of the individuals at each time interval finished before the first group in that interval did.

Thus, results from groups and individuals *given* different times are presumed to come from subjects who had *worked* for different times. At each interval, groups apparently worked longer than individuals.

The results from testing before and after course instruction appear in Table 2. The results before course instruction indicate that increasing the available time did not significantly affect the quality of decisions written by individuals: there is no significant difference between the QPS of 17.3 for I-50-B and the QPS of 19.6 for I-100-B. The .05 level of significance is used throughout this report.

The data in Table 2, however, indicate that groups with more available time made superior scores: there is a significant difference between the QPS of 12.9 for G-50-B, and the QPS of 22.9 for G-100-B. The difference in the time available for problem solving before course instruction resulted in a significant increase in the quality of decisions by groups, but not in the quality of decisions by individuals.

When 50 minutes were available for making decisions, the quality of decisions by individuals was significantly superior to that of those written by groups. However, when 100 minutes were available for making decisions before instruction, no significant difference was found between the quality of decisions by individuals and that of those by groups.

The results support the hypotheses that prompted the study. Generalizations about the relative ability of untrained *ad hoc* groups and of untrained individuals to solve human relations problems must be constrained insofar as the data are based on a 50-minute period. The results were different when the time available for problem solving was 100 minutes. The present results indicate that given 100 minutes, untrained *ad hoc* groups do as well as individuals in writing solutions to complex human relations problems.

Table 2 also presents results from testing after course instruction in the FOC. Increases in available time affect the quality of decisions by individuals. Both the QPS of 23.6 for I-75-A and the QPS of 22.7 for I-100-A are

TABLE 2

THE QPS FOR DECISIONS WRITTEN BY INDIVIDUALS AND BY GROUPS, FIELD OFFICERS COURSE, BEFORE AND AFTER COURSE INSTRUCTION, BY TIME ALLOTTED, MEAN QPS, STANDARD DEVIATION

| Means and standard deviation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Before course instruction | | | | | | After course instruction | | | | | |
| Designation | Work as | Time available | N | $\bar{x}$ | s | Designation | Work as | Time available | N | $\bar{x}$ | s |
| I-50 B | Indiv. | 50 min. | 44 | 17.3 | 6.9 | I-50 A | Indiv. | 50 min. | 80 | 18.1 | 7.3 |
| I-100 B | Indiv. | 100 min. | 60 | 19.6 | 8.5 | I-75 A | Indiv. | 75 min. | 83 | 23.6 | 4.1 |
| | | | | | | I-100 A | Indiv. | 100 min. | 77 | 22.7 | 8.2 |
| G-50 B | Group | 50 min. | 18 | 12.9 | 3.6 | G-50 A | Group | 50 min. | 11 | 24.1 | 6.8 |
| G-100 B | Group | 100 min. | 11 | 22.9 | 4.9 | G-75 A | Group | 75 min. | 11 | 29.0 | 6.3 |
| | | | | | | G-100 A | Group | 100 min. | 11 | 29.5 | 7.3 |

significantly better than the QPS of 18.1 for I-50-A. The difference between the decisions by I-75-A and I-100-A is not significant. Increases in available time also improved the quality of decisions by groups. The QPS of 29.5 for G-100-A is significantly better than the QPS of 24.0 for G-50-A, although the QPS of 29.0 for G-75-A is not. Thus, after course instruction, increases in available time for problem solving result in significant increases in the quality of decisions not only by individuals but also by groups.

After course instruction groups do consistently better than individuals. At each time interval the quality of decisions by groups is significantly superior to those by individuals. When people are trained in group dynamics and group problem solving they can function in *ad hoc* groups more effectively than individuals in making solutions to complex human relations problems even under the constraint of a 50-minute time limit.

Table 3 gives the distributions of QPS scores for decisions by groups and by individuals before and after course instruction. At each allotted time interval, before and after course instruction, some individuals make decisions equal to, or better than, any group decision. In fact, except at 50 minutes after course instruction, the *best* decision at each time interval is written by an individual. Although the average group significantly exceeds the average individual, some individual officers, working alone, do as well or better than any group. Conversely, at each time interval, the worst decisions are written by individuals. Thus, on the average, groups, before and after any instruction in group dynamics and problem solving, produce a decision better than those by the worst individuals but not superior to those by the best individuals.

Contrasting the average group with the average individual, considers whether six individuals can think up and also write up more ideas than any one individual. Using the average individual as referent does not indicate whether meeting in a group either leads to, or impedes the development of new ideas. An indication, however, can come from a method designated the "summated individual" or "concocted" group. The "concocted" group decision is an artificial device which gives consideration only to the unique points within the decisions of six individuals selected randomly to simulate a group decision. Data based on "concocted" groups have been used by Goodwin Watson (6) to demonstrate that "concocted" groups are better than individual or *ad hoc* groups in building short words from the letters of longer words. Using the "concocted" group technique, 13 groups were *simulated* from the 80 individuals given 50 minutes, after course instruction (I-50-A). The individual decisions were, on the average, not only poorer than the cor-

TABLE 3

THE DISTRIBUTION OF QPS SCORES FOR INDIVIDUALS AND GROUPS, FIELD OFFICERS COURSE, BEFORE AND AFTER COURSE INSTRUCTION, BY TIME ALLOTTED

| | Before course instruction | | | | After course instruction | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time allotted | | | | Time allotted | | | | | |
| | 50 min. | | 100 min. | | 50 min. | | 75 min. | | 100 min. | |
| QPS | Indiv. | Group | Indiv. | Group | Indiv. | Group | Indiv. | Group | Indiv. | Group |
| 44.0-47.9 | | | | | | | 1 | | | |
| 40.0-43.9 | | | 2 | | | | | | 1 | |
| 36.0-39.9 | 1 | | | | | | | 1 | 1 | 3 |
| 32.0-35.9 | | | 4 | | 2 | 2 | 7 | 2 | 6 | 3 |
| 28.0-31.9 | | | 6 | 3 | 6 | 1 | 17 | 5 | 11 | |
| 24.0-27.9 | 2 | | 5 | | 9 | 4 | 16 | 1 | 16 | 2 |
| 20.0-23.9 | 11 | | 14 | 5 | 14 | | 17 | 2 | 18 | |
| 16.0-19.9 | 12 | 4 | 11 | 3 | 19 | 2 | 15 | | 16 | 3 |
| 12.0-15.9 | 10 | 8 | 6 | | 19 | 1 | 7 | | 8 | |
| 8.0-11.9 | 7 | 3 | 7 | | 7 | 1 | 3 | | | |
| 4.0- 7.9 | 1 | 3 | 4 | | 3 | | | | | |
| 0.0- 3.9 | | | 1 | | 1 | | | | | |
| Totals | 44 | 18 | 60 | 11 | 80 | 11 | 83 | 11 | 77 | 11 |

responding group decisions for 50 minutes but also inferior to individuals given 75 and 100 minutes after course instruction. Seventy-eight of the 80 decisions were sorted randomly into 13 "concocted" groups comprising six individual decisions each. The sum of the unique points gave the "concocted" group a QPS which averaged 63.6.

The quality of the decisions of the "concocted" groups exceeds by far not only decisions by individuals and groups given 50 minutes, but also decisions by individuals and groups given 75 or 100 minutes. The average QPS of 63.6 is more than 30 points greater than the highest mean for *ad hoc* groups. The decision of the poorest "concocted" group had a QPS of 51.5, better than any decision by either an individual or an *ad hoc* group.

If the "concocted" group is accepted as the referent against which to appraise the effectiveness of the group process, then the actual group meeting seems not to have utilized the fullest resources available to the group from its constituent individuals.

### E. Discussion

Generalizations about the relative quality of decisions by groups and individuals before course instruction must be tentative insofar as the amount of time available determines the results.

Increases in time available for problem solving before instruction in group dynamics and group problem solving do not seem to produce significant differences in the quality of decisions written by individuals. The differences in additional time, however, do result in significant increases in the quality of decisions by groups. Decisions by groups given 100 minutes are superior in quality to those by groups given 50 minutes. The improvement in the quality of the decisions by groups given more time, coupled with the lack of improvement in those by individuals, alter the relative status of individual and group.

At 50 minutes decisions by individuals are superior; at 100 minutes there is no significant difference.

The "gains" in the quality of the decisions by groups as available time was increased suggest one reason for the relatively poor level of decisions by groups at 50 minutes in the Lorge study. Officers, untrained in group dynamics, apparently had difficulties in organizing as a group and proceeding with the solution of a complex human relations problem within 50 minutes. The poor QPS was *not* attributable to inability of groups in general, or *ad hoc* groups in particular, to handle the complex human relations problem. An added 50 minutes raises the quality of the decisions written by groups to the level of those written by individuals.

Groups composed of officers without special training in group dynamics can organize and function as a problem solving unit, and produce decisions equal in quality to those produced by their classmates working as individuals, if sufficient time is available.

Such a conclusion, based on a 100-minute period, can be neither complete nor final. The 100-minute period, like the 50-minute period, was selected opportunistically. One hundred minutes is not necessarily the terminal time at which individuals and groups work at their maximum levels. In fact, indications are that for groups, before course instruction, this is *not* so.

Nine of the 11 decisions by groups at 100 minutes, exceed the *best* decision written at 50 minutes, and a tenth decision equals it. Increase in available time has resulted in a general increase in the quality of group decisions. Furthermore, all 11 groups given 100 minutes presumably worked for this full time, so there is no evidence that they had as much time as they needed or wanted. In view of the better level of the group decisions, and with the full use of the time available, it is reasonable to assume that the decisions written by untrained *ad hoc* groups at 100 minutes are not the ultimate in quality that such groups can write.

Indeed, the contrary view is conveyed by decisions written by individuals. Not only is there no significant gain in quality after increased time is made available, but only ten per cent fully use the time available to them. Since few use the full time and since there is no improvement in I-100-B in general, it seems reasonable that further increases in the time available for problem solving may not result in better decisions written by individuals given even more than 100 minutes.

After course instruction, however, the direction of the difference between decisions by individuals and by groups at 50 minutes is substantiated at longer time intervals. There is improvement in the quality of decisions written by individuals and by groups with increments of available time.

Nevertheless, at each time interval decisions by groups are significantly better than decisions by individuals. The evidence suggests that after course instruction individuals and groups had ample time to perform at their maximum level when 100 minutes were available. This evidence rests on the lack of difference between the respective 75 and 100 minute sections, as well as in the relatively few groups and individuals who work for the full 100-minute period.

It would seem, then, that the executive or officer charged with the responsibility of selecting the appropriate method of organizing the people available to participate in any particular problem solving enterprise has

a simple task. If he has available personnel trained in the techniques of group dynamics, organizing them into groups will provide higher quality of solutions even if only limited time is available. If he has available only personnel without such training, the choice between organizing them as individuals or groups would seem best resolved on criteria other than quality. The present data offer little to choose between the two methods of organization of untrained personnel, in terms of the quality of the final product.

One important criterion to consider in selecting the most productive way to organize a population for problem solving, and one often overlooked, is cost in personnel time of each method. For example, in this study, each group utilized the services of six individual officers, and thus any one group decision took a minimum of six times as many man hours to produce as did any one individual decision.

In practice this ratio was even greater. For example, before course instruction, when 100 minutes was available, the average individual worked for about 60 minutes. Every group took the full 100 minutes, and thus took 600 man minutes or ten man hours. Thus, groups used up ten times as much personnel time, without any compensatory increase in the quality of their decisions.

After course instruction similarly high ratios occur between the man hours used by groups and individuals. For example, all the groups given 50 minutes took the full period, i.e., used 300 man minutes or five man hours. The median individual in this section worked for 28 minutes or one-half man hour. This is again a ten to one ratio. For those given 75 minutes the ratio was 12 to one, and for those given 100 minutes, ten to one. Thus an executive would have to weigh the difference in quality between the decisions written by groups and individuals against this great difference in the man hours necessary to secure each. In situations where personnel time is of little importance, and trained personnel are available, the qualitative superiority of using a group would be a paramount consideration. In those situations in which personnel time is of importance, however, it is well to realize that obtaining a group decision with a six-man group takes about ten times as much personnel time as does obtaining an individual decision. Further, untrained personnel offer no qualitative gains to compensate for the increased costs of using a group.

A second criterion for which the current study provides an estimate is the degree to which the *ad hoc* utilizes the resources available in its constituent individuals.

Data from the "concocted" groups, formed randomly from sets of six

individuals given 50 minutes, after course instruction, give an estimate of the wide resources potentially available to the group, from its constituent individuals. Using the "concocted" group's mean QPS of 63.6 as an estimate of the full resources and ideas available to the *ad hoc* groups, suggests a loss from group deliberation to written decision. Even after six months of instruction, including extensive work in group dynamics and practice in group problem solving, the *ad hoc* group does not transmit in its written record all the relevant ideas available to it.

Gurnee (1) and Timmons (5) believe that there is something more in the product of groups than can be accounted for by averaging or pooling its resources. There is no evidence in the present study that the decisions written by groups contain anything that individuals working alone have not considered. The concept of the group that emerges is not of the group as a creative force, which takes the resources and ideas of its constituent individuals as a starting point and, through the stimulation of interactions, creates a joint product better than any member was capable of as an individual. Indeed some individuals at each time interval write decisions equal to or better than any written by groups.

Rather the group emerges as a synthesizing force, which takes the resources and ideas available in its constituent members, and brings all or most of them to the attention of all the members through the group discussion. Then, by some process of selection, these ideas are formed into the group decision. The decision contains but a few ideas that some individuals had not thought of while working alone, and omits many such ideas. It is much less complete than the "concocted" group decision. Pooling ideas of separate individuals, without group interaction, may be a more effective technique than the use of *ad hoc* groups. Nevertheless, when sufficient time is available for the *ad hoc* group to function as a problem solving unit, the *ad hoc* group decision will be as good or better than the *average* of individuals, although at best it will not exceed the best individual.

In the great majority of situations in the military, in industry, and in education, the executive desires one recommended policy. His choice then is usually between assigning the task to one staff member to work as an individual or to several to work as a group and submit one group decision. The present data indicate that in these situations, should sufficient time be available, the written group decision, although only partially representative of the "concocted" group is, before course instruction, as good as those written by individuals, and after course instruction, better than those written by individuals.

This demonstrates the advantage (as did the "concocted" group decisions)

in human relations problems of pooling the ideas and resources of several individuals. While the data demonstrate that the *ad hoc* group is an effective way of accomplishing this pooling, they clearly demonstrate the need for consideration of more efficient ways of recording and transmitting the group decision, as well as training of the individuals who are to work in groups in evaluating the points contributed to the discussion.

The great discrepancy between "concocted" groups and the average individual decision indicates also a need for improved problem solving techniques emphasizing the ability to recognize all aspects of a problem situation and the most important action to take in each.

## F. Summary

Lorge and others have reported that with 50 minutes available, individuals wrote better solutions to human relations problems than *ad hoc* groups. This study investigated if this generalization is supported when more time is available. The new data indicate that, with more time available, *ad hoc* groups write solutions as good as those written by individuals, before instruction in group dynamics and problem solving, and solutions better than those written by individuals after such instruction. The data also indicate a discrepancy between the ideas initially available, those discussed, and those included in the written group decision. This suggests the need for better techniques of problem solving, of evaluating ideas presented, and of reporting results, in group deliberation.

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# BOOKS

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*The Journal of Social Psychology*, 1962, 57, 249-256.

# ATTITUDES OF MEXICAN-AMERICAN AND ANGLO-AMERICAN GROUPS TOWARD EDUCATION*

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GEORGE D. DEMOS

## A. INTRODUCTION

Many writers have delineated various myriad problems of Mexican-American youngsters with regard to education. Heffernan (4), Burma (1), Chang (2), Griffith (3), and Tuck (8), to list a few, have done so. Their thinking can be summarized as follows: (*a*) low level of aspiration resulting in failure to achieve commensurate with ability; (*b*) lack of parental aspiration and support of educational effort; (*c*) excessive early school dropouts; (*d*) bilingualism and inadequate facility in the use of the English language; (*e*) biculturalism or dualisms in cultural values between the Spanish-speaking and dominant group; (*f*) excessive peer identification and formation of gangs; (*g*) economic insecurity; the need to contribute to family support; and (*h*) attitudinal differences that are contrary to the Anglo-American feelings toward education.

In order to understand these youth better, a clearer delineation of the attitudinal differences that exist, toward education, between Mexican-American and Anglo-American seemed needed.

Walker (9), Shaftel (6), Taylor (7), Hymer (5), Withers (10), Burma (1), and several others reveal somewhat contradictory results with regard to the attitudes toward education of Mexican-American students. Some stated that the attitudes of the Mexican-American student and his school seemed to be basically the same as those between the student and many other elements of his environment, namely, negative. On the other hand, some suggested that the attitudes of the Mexican-American students were not distinctly different from the attitudes of the Anglo-American students of similar socioeconomic backgrounds.

However, the research dealing with Mexican-American attitudes is extremely scanty and leaves much to be desired. In summary: (*a*) the literature does not show unequivocal differences of attitude between Anglo-American and Mexican-American groups; (*b*) no recent studies could be found that

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attempted to make a direct comparison of attitudes toward education between these two ethnic groups; (*c*) none of the studies attempted to control any of the variables that may account for attitudinal differences between groups; (*d*) the literature reported no studies dealing with change of attitudes concomitant with ethnic group membership; and (*e*) those studies showing attitudinal differences between Mexican-Americans and Anglo-Americans were generally lacking in experimental or statistical control of related variables. In most cases, generalizations were drawn without actual data to verify such conclusions.

### B. Purpose

The purpose of this study was to ascertain whether or not significant attitudinal differences existed toward education between Mexican-American and Anglo-American pupils, when matched on socioeconomic level, intelligence, age, grade, and sex, and if these differences were concomitant with ethnic group membership. The study attempted to isolate some of these differences of attitudes in pupils from grades seven through twelve.

### C. Method

A stratified sample of 105 Mexican-American youngsters were selected, 35 from the seventh-eighth grades, 35 from the ninth-tenth grades, and 35 from the eleventh-twelfth grades. In a similar fashion 105 Anglo-Americans were randomly selected with an equal number in each of the grade groups. The third group consisted of 105 Anglo-Americans that were matched with the Mexican-American sample on age, grade, sex, social class, and intelligence. Thus, the total sample consisted of 315 *Ss*, of which, 105 were Mexican-Americans and 210 were Anglo-Americans. Specifically excluded were Negroes and Orientals.

The method of successive intervals was the scaling technique utilized in developing the attitude scales. In obtaining judgments by the method of equal appearing intervals, one of the extreme positions is described as highly favorable, the other highly unfavorable, and the middle category as neutral. In this investigation, five intervals were described. They were: (*a*) highly favorable; (*b*) favorable; (*c*) neutral; (*d*) unfavorable; and (*e*) highly unfavorable. No assumption was made concerning the psychological equality of the category intervals. It was assumed only that the categories were in correct rank order and the boundary lines were stable. The various statements were rated into the successive intervals by a group of seven judges according to the degree of favorableness-unfavorableness that each statement was assumed to express.

TABLE 1
DISTRIBUTION OF THE SAMPLE BY GRADE LEVEL, SEX, DROPOUTS, AND ETHNIC GROUP

| | | Grade level | | | | |
|---|---|---|---|---|---|---|
| | | Seven and eight | Nine and ten | | Eleven and twelve | |
| Mexican-American Random | Male | 17 | 13 | | 10 | |
| | Female | 18 | 14 | | 13 | |
| | Dropout | 0 | 8 | (Male 5 (Female 3 | 12 | (Male 7 (Female 5 |
| | Total | 35 | 35 | | 35 | |
| Anglo-American Random | Male | 17 | 14 | | 12 | |
| | Female | 18 | 15 | | 14 | |
| | Dropout | 0 | 6 | (Male 4 (Female 2 | 9 | (Male 6 (Female 3 |
| | Total | 35 | 35 | | 35 | |
| Anglo-American Matched | Male | 17 | 13 | | 10 | |
| | Female | 18 | 14 | | 13 | |
| | Dropout | 0 | 8 | (Male 5 (Female 3 | 12 | (Male 7 (Female 5 |
| | Total | 35 | 35 | | 35 | |

In validating the instrument several essential steps were taken. First, a comprehensive review of the literature was made. Second, extensive interviews were secured with Mexican-American and Anglo-American subjects, principals, vice-principals, school psychologists, school counselors, teachers, graduate students, and professors of education to compile relevant issues dealing with Mexican-American problems. Sixty-nine judges were then given instructions to rate the various issues against the criteria of relevance and lack of ambiguity. Twenty-nine of the issues satisfied the criteria and were selected to be incorporated into attitude scales. The first completed scales were again submitted to the judges to insure that each of the five statements represented a continuum of attitude. The revised scales were finally administered to a pilot group; the data were analyzed, and further revisions were made before the final form of the measuring instrument was determined.

The following are two samples of the scales used:

#21

———1. It is wise to take part in class discussions as much as possible.
———2. Most of the time, it is wise to take part in class discussions as much as possible.
———3. Sometimes it is wise, and sometimes it is foolish to take part in class discussions.
———4. Most of the time it is foolish to take part in class discussions.
———5. It is foolish to take part in class discussions.

#22

———1. Students should not feel free to disagree with the teacher.

——2. Most of the time, students should not feel free to disagree with the teacher.
——3. Sometimes students should feel free, and sometimes they should not feel free to disagree with the teacher.
——4. Most of the time, students should feel free to disagree with the teacher.
——5. Students should feel free to disagree with the teacher.

The results of the administration of the attitude scales were summarized, and the statistical methods of chi square and analysis of variance were utilized to determine if significant differences existed.

## D. Procedure

Grade comparisons of attitudes on 29 issues related to education were made. The verbal responses of the following grade groups were compared: (*a*) randomly selected Mexican-American seventh-eighth, ninth-tenth, and eleventh-twelfth graders (combined) with matched Anglo-American seventh-eighth, ninth-tenth, and eleventh-twelfth graders (combined). The author also made comparisons by grade between the Mexican-American and Anglo-American groups, but they are not reported in this study. It was also felt that it would be desirable to have an over-all test of the several samples simultaneously. Since 58 differences were tested, we could have some of these meeting the significance standards due to chance. Thus, a simultaneous test was made to ascertain whether the whole distribution of obtained sampling statistics could have happened by chance (Table 2).

TABLE 2
Analysis of Variance of Attitudes of Mexican-American and Anglo-American Grade Groups

| Source of variance | Degree of freedom | Sum of squares | Mean squares | F | Level of confidence |
|---|---|---|---|---|---|
| Grade level (columns) | 2 | 5795.49 | 2897.75 | 22.64 | .001 |
| Ethnic group (rows) | 2 | 1504.22 | 752.11 | 5.88 | .010 |
| Between groups | 8 | 9120.53 | 1140.07 | 8.91 | .001 |
| Interaction (R × C) | 4 | 1820.82 | 455.21 | 3.56 | .010 |
| Within groups | 306 | 39158.24 | 127.97 | | |
| Total | 314 | 48279.77 | | | |

The statistical method of chi square was used to determine if significant differences existed between the various groups on the issues related to education. The five and one per cent levels of confidence were reported. An arithmetic mean attitude score was also computed to aid in indicating the variation

on the attitude continuum. The means are presented in a way that the larger scores signify more desirable attitudes and the lower scores less desirable attitudes toward education, as judged by the judges used in this study.

The following hypotheses were tested: (*a*) there exist no significant differences of attitude toward certain issues related to education among the Mexican-American and Anglo-American groups; and (*b*) there are no fewer significant differences of attitude toward certain issues related to education between the Mexican-American and Anglo-American matched sample than between the Mexican-American and Anglo-American random sample.

## E. Findings

Very significant ratios were found to exist when the data were treated together. The significant F's tell us that there are non-chance variations among means somewhere in the list of sets; we do not know how many or which ones are significantly different from this analysis. However, the use of chi square in Table 3 examines the pairs and points out just where the differences exist. As a group they could not have arisen from a homogeneous list of samples. Very significant ratios existed between the grade levels (columns), ethnic groups (rows), between groups, and the interaction variance or those variations attributed, not to either of two influences acting alone, but to joint effects of the two acting together.

The null hypothesis that there exist no significant differences of attitude toward certain issues related to education among the Mexican-American and Anglo-American groups was not tenable. Sixteen significant differences on 11 of the 29 issues were found to exist at either the five or one per cent levels of confidence. Those issues on which the Mexican-American and Anglo-American groups differed significantly were as follows: Both random and matched Anglo-American samples differed from the Mexican-American sample on Issues 2, 5, 10, 19, and 28. Just the random Anglo-American sample differed from the Mexican-American sample on Issues 1, 6, 14, 22, and 23. Just the matched Anglo-American sample differed from the Mexican-American sample on Issue 13. However, this was the only issue in which the significant difference favored the Mexican-American group. The matched Anglo-American group had what was judged the less desirable attitude. The random Anglo-American group, however, had the most desirable attitude toward the issue. No significant differences of attitude between either sample were found to exist between the Mexican-American and Anglo-American groups on 18 issues.

The null hypothesis that there are no fewer significant differences of atti-

TABLE 1
CHI SQUARES AND MEANS OF RESPONSES OF THE MEXICAN-AMERICAN AND ANGLO-AMERICAN GROUPS FOR GRADES SEVEN THROUGH TWELVE

| Issue | Mexican-American | Anglo-American | Mexican-American | Anglo-American |
|---|---|---|---|---|
| | Mean random sample | | Mean matched sample | |
| 1. Presence of teacher understanding | 3.16 | 3.36** | 3.13 | 3.28 |
| 2. Importance of an elementary education | 4.62 | 4.78* | 4.62 | 4.69* |
| 3. Desirability of peer influence | 3.09 | 3.14 | 3.09 | 3.12 |
| 4. Desirability of parental pressure for education | 3.74 | 3.64 | 3.74 | 3.56 |
| 5. Staff's concern about students | 3.30 | 3.85** | 3.30 | 3.70** |
| 6. Necessity of a high school education | 4.00 | 4.59* | 4.00 | 4.50 |
| 7. Participation in co-curricular activities | 4.18 | 4.31 | 4.18 | 4.37 |
| 8. Discipline being too harsh | 3.11 | 3.27 | 3.11 | 3.21 |
| 9. Importance of receiving good grades | 4.63 | 4.71 | 4.63 | 4.77 |
| 10. Desirability of dropping out of school | 3.50 | 4.14** | 3.50 | 4.08* |
| 11. Practical value of course work | 3.85 | 4.01 | 3.85 | 4.07 |
| 12. Presence of interesting school subjects | 3.31 | 3.42 | 3.31 | 3.40 |
| 13. Value of a college education | 4.03 | 4.30 | 4.03 | 3.76** |
| 14. Willingness to seek counseling | 3.68 | 4.10** | 3.68 | 3.91 |
| 15. Approachability of teachers | 4.49 | 4.64 | 4.49 | 4.57 |
| 16. Desirability of getting interested in every course | 4.38 | 4.36 | 4.38 | 4.39 |
| 17. Importance of studying | 3.96 | 4.12 | 3.96 | 3.97 |
| 18. Importance of athletics | 3.97 | 4.11 | 3.97 | 4.08 |
| 19. Desirability of a gang | 3.86 | 4.05** | 3.86 | 4.31** |
| 20. Teacher fairness in grading | 3.49 | 3.52 | 3.49 | 3.70 |
| 21. Desirability of class participation | 4.37 | 4.53 | 4.37 | 4.70 |
| 22. Freedom to disagree with teachers | 3.36 | 4.23* | 3.36 | 3.76 |
| 23. Helpfulness of the administration | 3.45 | 3.83** | 3.45 | 3.78 |
| 24. Desirability of assuming school leadership | 3.44 | 3.43 | 3.44 | 3.51 |
| 25. Teacher discrimination | 3.07 | 3.13 | 3.07 | 3.36 |
| 26. Friendliness of students | 3.56 | 3.68 | 3.56 | 3.63 |
| 27. Teacher help and attention | 3.77 | 3.85 | 3.77 | 3.89 |
| 28. Importance of good attendance | 4.21 | 4.66** | 4.21 | 4.56* |
| 29. Importance of a junior high school education | 4.35 | 4.72 | 4.35 | 4.63 |

* Significant at .05 level.
** Significant at .01 level.

tude toward certain issues related to education between the Mexican-American and Anglo-American matched sample than between the Mexican-American and Anglo-American random sample was tenable. The matched sample differed significantly only six times, while the random sample differed significantly ten times.

## F. Discussion

It was expected that differences would be found between the random Anglo-American and Mexican-American groups; thus, matching for socioeconomic level, intelligence, age, grade, and sex was accomplished to ascertain if differences would be reduced or eliminated altogether. Matching did reduce the number of significant differences from ten issues to six issues. Therefore, it may be said with some degree of certainty that the six differences that remained are a result of Mexican-American ethnic group membership. No particular rationale can be given for the type of differences found among the groups. However, several of the issues where significant differences existed dealt with human relations, but on the other hand, there were other issues of a similar nature where no differences were noted.

## G. Summary and Conclusions

An analysis was made of the attitudes toward education of Mexican-American and Anglo-American students from grades seven through twelve. The study attempted to ascertain if significant differences of attitude existed, and if so, in what area, and if these differences were concomitant with minority group membership.

Differences in attitude are found among the Mexican-American and Anglo-American groups. There are more differences between the randomly selected Anglo-Americans and Mexican-Americans than between the matched Anglo-Americans and Mexican-Americans.

In every case where a difference is found between the random samples, the Anglo-American group has the more desirable attitude toward education. In the matched sample comparisons, in only one case do the Mexican-American students have what is considered the more desirable attitude and in the remaining five cases they hold the less desirable attitudinal position. It should also be pointed out, however, that the general agreement between the Mexican-American and Anglo-American subjects is much greater than the disagreement between these groups.

Matching of the Mexican-American and Anglo-American groups with regard to age, grade, sex, social class, and intelligence does reduce the number

of differences of attitude between the two groups. However, there still exist six significant differences that may be accounted for as differences due to Mexican-American ethnic group membership.

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# SELF-DISCLOSURE AMONG UNIVERSITY STUDENTS IN THE MIDDLE EAST*

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## A. INTRODUCTION

Differences in the readiness of individuals to disclose personal information have been observed by Lewin (3) and demonstrated by Jourard (2). Lewin's observations concerned differences between Germans and Americans, while Jourard demonstrated differences related to sex and race in a group of American college students. Jourard also reports two cluster areas of disclosure, a high cluster area consisting of attitudes and opinions, interests and tastes, and of work; and a low cluster area which includes money, personality and body. His results indicate that the extent of self disclosure is a function of the aspect of the self which is being disclosed as well as of "the person to whom information about the self is being communicated." Such a person is designated by Jourard as the "target person."

The present study is an attempt to determine whether "self disclosure" as measured and identified by Jourard can be investigated cross-culturally with non-American groups. Nine groups of students coming from different parts of the Middle East and attending the American University of Beirut were chosen for this study. The questions raised were essentially those of Jourard.

(1) Do *S*s coming from different ethnic, linguistic, and/or religious backgrounds in the Middle East vary in the extent to which they disclose themselves to different target persons such as parents, siblings, and peers?

(2) Do these groups differ in the degree to which they diclose certain aspects of themselves, such as their attitudes, tastes, work, money, personality, and body?

(3) Are the clusters of "self disclosure" in the Middle East the same as those found by Jourard for his United States subjects?

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## B. Method

### 1. *Self-Disclosure Questionnaire*

Jourard's questionnaire described in (2) was originally administered to 30 students at the American University of Beirut for whom English was a second language. The questionnaire was screened for cultural inconsistencies by faculty members who knew the cultural backgrounds of the groups involved in the study by reference to the available reports of the Human Relations Area Files (7, 8, 9) and by discussing the questionnaire with some of the senior students from those cultures in a course on culture and personality. In addition to Jourard's instructions *S*s were asked to underline any word or expression which they did not understand. The returns of these questionnaires showed that the instructions were quite clear but a number of words and idioms such as "beverage," "feeling blue," and "racial integration," etc., needed clarification. These were replaced by more comprehensible or equivalent terms and the corrected questionnaire submitted to a group of English teachers for further scrutiny regarding its level of comprehension. After a few minor alterations were made, the final questionnaire was administered to the experimental *S*s.

The questionnaire was presented to the *S*s in three parts. Part I included "father" and "mother" as target persons. Part II included "brother" and "sister," and Part III included "male friend" and "female friend" as target persons. Next to each item were two rating scales, one for each of the target persons. In order to minimize a response set by *S*, the 24 different combinations of ratings X, 0, 1, 2, were randomly ordered in the three parts of the questionnaire. *S*s who had no brother or sister were instructed not to answer the appropriate section. This was taken into account when means of self disclosure to these target persons were calculated.

A personal data sheet was included with the questionnaire.

### 2. *Subjects*

It was originally hoped to have nine nationality groups of 25 *S*s each randomly chosen from students in the American University of Beirut, Lebanon. Only single, male, undergraduate Bursary students from the School of Arts and Sciences, both of whose parents were alive, were to be included in the study. Each group was homogeneous as far as religion of *S*s was concerned. Even though 190 of the 225 randomly chosen *S*s appeared at the designated time and answered the questionnaire, a large number of questionnaires had to be discarded because either one or both parents of *S* were dead. Another call was

consequently made and *Ss* were asked to fill the questionnaire individually. The largest increase came from the Lebanese and Jordanian students and it was decided to keep their numbers above the 25 originally allowed for each nationality group. The nine nationality groups included in the study, the number of *Ss* in each, the age range, mean age and standard deviation, and the religion of each group are given in Table 1. No attempt was made to

TABLE 1
NATIONALITY, RELIGION AND AGE OF *Ss*

| Nationality | N | Age range | Mean | SD | Religion |
|---|---|---|---|---|---|
| Afghans | 10 | 20–38 | 24.1 | 10.2 | Moslems |
| Armenians | 13 | 19–28 | 22.3 | 2.8 | Christians |
| Ethiopians | 16 | 20–32 | 25.3 | 2.6 | Christians |
| Greeks | 11 | 20–36 | 22.3 | 2.3 | Christians |
| Iranians | 11 | 19–24 | 20.9 | 1.5 | Moslems |
| Jordanians | 32 | 18–29 | 20.6 | 7.7 | Moslems |
| Lebanese | 38 | 18–28 | 20.7 | 2.8 | Christians |
| Pakistanis | 10 | 19–30 | 22.9 | 4.3 | Moslems |
| Sudanese | 17 | 20–25 | 22.4 | 1.5 | Moslems |

break down the religious groups into sects. A total of 158 *Ss* satisfied our criteria and were included in the study.

### 3. *Cultural Background of Ss*

The *Ss* in our study come from countries generally included under the terms Middle and Near East. This area is considered by Coon (1) as a cultural entity with regional variations, an area which in many respects is ancestral to both East and West. The area is predominantly Arab and Islamic in its culture in which tradition and the extended patriarchal family are powerful. Its authoritarian characteristics are reflected in its institutional life, in its interpersonal relations, and in its centralized governmental services (5). Until recently it was a relatively stable and well integrated area (1) but it is now rapidly losing this stability and integration. The few Christian pockets in the area share many common elements with the major culture. "Thus for the Christians of the Near East, Moslem Culture, whether Arab or Turkish or Persian, is in a deep sense their culture. They have always shouldered civic, economic, political and intellectual responsibility with their Moslem brethren" (6).

The groups included in our study overlap linguistically as in the case of Lebanon, Jordan and Sudan where Arabic is the spoken language, or overlap religiously such as the Christian Greeks, Ethiopians, Armenians and Lebanese *Ss*; or in the case of the Moslem Iranian, Afghani, Pakistani, and Sudanese

*Ss*. This does not imply, however, that no other religious groups are found in these countries. In Lebanon, for example, the Christians slightly outnumber the Moslems, but our sample was only limited to Christians.

### 4. *Analysis of Data*

The data was analyzed according to Lindquist's mixed design type 1 (4) for an analysis of variance of mixed between and within effects. Differences were computed between all groups for targets and aspects of self whenever *F* was significant.

## C. Results and Discussion

Tables 2 and 3 show the analysis of variance for self disclosure, to different target persons and for different aspects of self, for our nine groups. The differences among our groups do not appear to be significant either in regard to target or aspect of self which is being disclosed. Interactions, however, between target and country, and between aspect of self disclosed and country are both significant at the .001 level of confidence. This seems to indicate that a relationship in these two areas is present but related to a new variable.

The absence of any differences between our nine groups is significant in itself. It seems to indicate the possibility that, in spite of the linguistic, ethnic, and religious differences between our *Ss*, there seems to be a common factor which influences their readiness for self disclosure. In all probability this common element may be the traditional authoritarian family structure which with some variations is common to all of them.

From the same Tables 2 and 3 we can see that the differences between the

TABLE 2
Analysis of Variance of Self Disclosure to Different Target Persons for the Nine Groups

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between *Ss* | 157 | | | |
| Countries B* | 8 | 22222.3 | 2777.8 | 1.58 N.S. |
| error | 149 | 261753.6 | 1756.7 | |
| Within *Ss* | 790 | | | |
| Target A* | 5 | 6504.6 | 1300.9 | 6.15** |
| AB | 40 | 88234.1 | 2205.8 | 10.43** |
| error (w) | 745 | 157498.4 | 211.4 | |

* The letter in the above table refers to rows $A_1$ (Father), $A_2$ (Brother), $A_n$ etc. . . . and Columns $B_1$ (Iran), $B_2$ (Lebanon), $B_n$ etc. . . .

** Significant at the .001 level.

TABLE 3
ANALYSIS OF VARIANCE OF SELF DISCLOSURE OF DIFFERENT ASPECTS OF SELF FOR THE NINE GROUPS

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between *Ss* | 157 | | | |
| Countries B* | 8 | 22763.9 | 2845.4 | 1.79 N.S. |
| error | 149 | 236995.4 | 1590.5 | |
| Within *Ss* | 790 | | | |
| Aspects A* | 5 | 93070.1 | 18614.0 | 108.6** |
| AB | 40 | 30841.3 | 771.0 | 4.5** |
| error | 745 | 127683.3 | 171.4 | |

* The letters in the above table refer to rows $A_1$ (Attitudes) . . . $A_n$; and columns $B_1$ (Iran), $B_2$ (Lebanon), . . . $B_n$.

** Significant at the .001 level.

target persons and between the different aspects of self disclosed are both significant at the .01 level of confidence.

The differences in self disclosure to different target persons are shown in Table 4. "Male friend" with a mean of 65.6 ranks first and is followed by brother 55.8, mother 48.5, father 47.4, female friend 43.9, and sister 39.7.

TABLE 4
DIFFERENCES BETWEEN TARGETS IN MEAN DISCLOSURE SCORES

| | Mean | Mother | Brother | Sister | Male friend | Female friend |
|---|---|---|---|---|---|---|
| Father | 47.4 | —1.1 | —8.4** | 7.7** | —18.2** | 3.5* |
| Mother | 48.5 | | —7.3** | 8.8** | —17.1** | 4.6** |
| Brother | 55.8 | | | 16.1** | — 9.8** | 11.9** |
| Sister | 39.7 | | | | —25.9** | 4.2** |
| Male friend | 65.6 | | | | | 21.7** |
| Female friend | 43.9 | | | | | |

* Significant at the .05 level of confidence.

** Any difference larger in absolute value than 4.20 in the above table is significant at the .01 level.

The only non-significant difference is that between father and mother which seems to indicate that our *Ss* are ready to disclose equally to either parent. In spite of the secondary role which the mother plays in the traditional family structure, our *Ss* seem to feel as close to her as they do to their fathers. In fact, it is possible that in certain "aspects of self" they may be more free with her than with their father. All other differences are significant at the .01 level of confidence except in the case of father and female friend where the difference is significant at the .05 level of confidence.

Table 5 shows the difference between the different aspects of self disclosure. Readiness for disclosure appears to be highest for "attitudes and opinions" with a mean of 56.8, followed by "tastes" with a mean of 55.5, "work and

TABLE 5
DIFFERENCES BETWEEN ASPECTS OF SELF AND MEAN DISCLOSURE

| | Mean | Tastes | Work | Money | Personality | Body |
|---|---|---|---|---|---|---|
| Attitudes | 56.8 | 1.3 N.S. | 5.2 | 16.8 | 18.6 | 26.4 |
| Tastes | 55.5 | | 3.9 | 15.5 | 17.3 | 25.1 |
| Work | 51.6 | | | 11.6 | 13.4 | 21.2 |
| Money | 40.0 | | | | 1.8 N.S. | 9.6 |
| Personality | 38.2 | | | | | 7.8 |
| Body | 30.4 | | | | | |

Any difference larger in absolute value than 3.79 in the above table is significant at the .01 level.

studies" 51.6, "money" 40, "personality" 38.2, and "body" 30.4. The differences between these different aspects are significant at the .01 level of confidence for all aspects except between "attitudes" and "taste" and between "money" and "personality." Table 5 shows that these six areas fall into a high and a low disclosure cluster similar to those of Jourard (2). The rank order correlation between the rankings of our *Ss* and those of Jourard on these six aspects of self is .77, which seems to indicate the possibility that the pattern of self disclosure in these six areas is common to both American and Middle Eastern *Ss*. In comparison, the rank order correlation of the target persons is 0. An indication that self disclosure to target person is in all probability a function of the culture.

The high rank which "male friend" and "brother" hold is possibly related to the aspect of self being disclosed. In the high disclosure cluster, the male friend ranks first for all groups in the three aspects, while the brother ranks second in 20 of the 27 possible second ranks. Since these aspects are controversial in their character and directly involve the younger generation, our *Ss* apparently feel more at ease to discuss them with their peers and brothers. They involve ideas which may be contrary to parental expectations or may appear so revolutionary to them that our *Ss* would rather not talk about them. It is probably a reflection of the wide educational gap that exists between our *Ss* and their parents which often leads to misunderstandings about some contemporary problems, and at times to psychological conflicts.

The low rank given to "female friend" and "sister" is in all probability a reflection of the female status in the culture, as well as of the gap which exists between "brother" and "sister." Even though no information was gathered from our *Ss*, it is very probable that in the majority of cases the sister had a low level of education. The "female friend" is a relatively new concept to the majority of our *Ss*. Such a relationship does not seem to entail closer ties or a free exchange of information.

In the "low cluster" of self disclosure the rank of "male friend" is con-

sistent only for the Sudanese and Afghani *S*s. The others seem to exclude from him the "money" aspect of self disclosure. Since the male friend is an "outsider," one apparently does not feel at ease to disclose to him his financial affairs which generally are linked to the family prestige and status in the community. One is not expected to brag about his finances or to declare his poor financial condition. There appears to be a pride in poverty and a humility in wealth. If one needs financial help, it comes from the family and not from an outsider.

## D. Summary

Jourard's self disclosure questionnaire was given to 158 male students at the American University of Beirut. The *S*s came from nine different countries and two major religions. Analysis of the results showed the following: (*a*) no significant differences were found between the nine groups in self disclosure either to the target persons or in the different aspects of self being disclosed; (*b*) significant differences between the different target persons for all our *S*s and between the different aspects of self disclosure was found; (*c*) the six aspects of self disclosure formed two clusters, a high and a low cluster similar to Jourard's; and (*d*) the probability that the extent of self disclosure to the target person was culturally determined was also indicated.

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# ATTITUDES OF AMERICA-EDUCATED FOREIGN STUDENTS TOWARD AMERICAN DEMOCRATIC ORIENTATION*[1]

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## A. INTRODUCTION AND STATEMENT OF THE PROBLEM

G. W. Allport, discussing the origins of attitudes, suggests four conditions of attitude formation. They may be described by the following terms: integration, differentiation, shock or trauma, and adoption (1, pp. 810-11). Development of an attitude by integration is due to the accumulation of a large number of experiences over a long period of time all of which influence the individual in a given direction. Attitude development by differentiation may be described as a splitting off of a specific attitude from a more general one. Development of an attitude by shock is due to an unusual, violent, or painful experience. Finally, an attitude may be developed by adoption, in that the individual merely follows the example of friends, teachers, parents, newspapers, and other opinion molding agencies.

Another point of view in regard to the origins of attitudes is exhibited in the classification of related variables by Newcomb (12, pp. 912-1046). He deals with the relationship between attitude and the following variables: individual characteristics, life experiences, experimental modification, and the organizational units to be observed in an individual's personality or behavior.

Sherif and Cantril employ the term reference group to indicate the source of attitudes and their change. They describe the referential nature of attitudes as follows: major attitudes are . . . derived from groups to which we learn to relate ourselves or which we regard ourselves as members of: reference groups, membership groups (14, p. 114).

In the foregoing theories, as well as in some others which we have not mentioned, there is a core of agreement which shows that the nature of attitudes depends upon the structure of the social-psychological field in which they arise.

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[1] This paper reports on two of the hypotheses of the author's Ph.D. dissertation presented to the Graduate School of Purdue University, 1961, entitled "Social Interaction Between Foreign Students and Americans in a Mid-Western Community." The author is indebted to his advisor, Dr. Walter Hirsch for his valuable suggestions and constructive criticism.

In other words, one must look for their origins in the individual's total experience within a social frame of reference.

In recent years many studies dealing with attitude formation have been conducted in the field of cross-cultural education, more particularly on foreign students in the United States (3, 6, 7, 8, 9, 11, 15, 17, 18). Almost all the studies point to the fact that the preconceptions with which the foreign student comes, and the nature of his experiences in the host country influence his attitudes either positively or negatively toward the host culture.

In a study conducted on 19 students from India, Pakistan, and Ceylon, Lambert and Bressler found that negative attitudes and unfavorable criticisms of the United States were often caused by the operation of the visitor's ego-defenses when his interaction with Americans involved verbal references to certain "sensitive areas" specific to his own culture (7, 8). Kiel found that the prevalence of discrimination destroyed the Indian student's original concept of democratic America. Because the student found that democracy had failed in one respect, he felt that it had failed in all and was thus worthless (6). Zagonc found a positive relationship between Indian students' attitudinal aggression and difficulty in conformity to the norms of the host culture (18). Watson and Lippitt found that their German subjects faced America with considerable defensiveness. In areas in which they held strong preconceptions, there was little change in their attitudes and beliefs; they selected and interpreted experience to fit what they expected (9, 17).

In evaluating the studies dealing with the origins of attitudes among foreign students in the United States, we find that most of them were conducted on single nationals, and therefore, we cannot generalize their findings on other nationals unless they are tested on multinational samples. Another limitation of almost all the studies lies in the fact that they were conducted on a small number of persons; thus, it becomes difficult to draw from them valid and reliable conclusions.

It is the purpose of this study to investigate the attitudes of foreign students toward American democratic ideals as carried out by most people in the United States, and to examine the conditions under which they develop their attitudes; taking into consideration the large number of subjects and the heterogeneity of their origin. A number of variables such as kinds of experiences encountered by foreign students through their interaction with Americans, and their adjustment to the social and academic life on American campuses are taken into account.

## B. Hypotheses

*Hypothesis 1.* Foreign students who have favorable experiences through their interaction with Americans will have more favorable attitudes toward American democratic orientation than those who have unfavorable experiences.

*Hypothesis 2.* Foreign students who are well-adjusted to the academic and social life in the United States tend to be more favorable in their attitudes toward American democratic orientation than those students who have more adjustment problems.

## C. Method

### 1. *Subjects*

The study was conducted on foreign students attending Purdue University during the second semester of the academic year 1959-60. The sample consisted of 397 foreign students representing Arab countries, China, Formosa, Great Britain, Greece, India, Iran, Japan, Kenya, Korea, Latin America, Nigeria, Philippines, Scandinavia, Siam, and Turkey. Data were gathered by mailed questionnaires. Three hundred and seven or 76.8 per cent of the subjects (*Ss*) filled the questionnaires and mailed them back. Three hundred and four of these were usable and three were discarded. The five largest countries represented in the study were India, Latin America, China, Arab countries, and Korea. Of the 304 *Ss*, 55 were Indians, 53 Latin Americans, 32 Chinese, 30 Arabs, and 20 Koreans. There were 267 male *Ss* and 37 females. Of the 304 *Ss*, 212 were single, 86 were married, and six did not indicate their marital status. There were only 32 social science *Ss* representing approximately 10 per cent of the *Ss*. Of the 304 *Ss*, 119 were graduate students and 125 were undergraduates.

### 2. *Measuring Devices*

The following scales and indices were constructed for the purpose of testing the hypotheses:

*a. Democratic orientation scale.* This scale relied heavily on a scale developed by Beery (2) and modified by Long (10). In developing the scale, Beery gathered 953 returns on three forms of a democracy questionnaire which tested different groups (such as graduate students, business executives, essay contestants, co-operators, and farmers). These *Ss* agreed or disagreed on a five-point scale with a list of statements prepared by Beery on the essentials of a democracy. Any principle which Beery found to have 90 per cent or higher agreement among all groups was usable by Long in his study.

Long used 50 items which were submitted to a group of four American students, each of whom had completed at least three years of graduate training in psychology. They were asked to score each item as they thought a person with a democratic orientation would score it. Democratic orientation was defined in terms of the personality variable found in a democratic person. After completing this, each judge was asked to score the questions as he thought a person with an authoritarian orientation would score them. The scores of the judges split the questions so that a democratically-oriented person would score them in one direction and an authoritarian-oriented person would score them in the opposite direction.

A criterion was then set up whereby three out of four agreements by the judges on a single answer meant that it was accepted as the correct one for use in scoring. This agreement meant further that three out of four judges agreed that the democratically-oriented person would score the item either positively or negatively and the authoritarian-oriented person would score it in the opposite direction. This agreement was considered as the final criterion in grading the items.

The present investigator selected 13 of the items which appeared to be more discriminating in Long's study. When the questionnaire was pretested, an item was misinterpreted by the *S*s. Therefore, it was eliminated. Thus, the final scale contained 12 items of which eight were negative and four were positive. The items covered many areas such as: mate selection, authority within the family, personal, political, and religious freedom, labor-management relations, racial relations, and social and political change.

The items used in constructing the scale were:

1. Everyone should have the right to choose his own mate irrespective of parental wishes.
2. Newspaper reporters should be allowed to print critical comments even against the church.
3. Wives should stay in homes and find their creative talents through home-making expressions.
4. The man of the house should set up permanent standards in the home situations for himself and his wife and for all.
5. A laborer has no right to raise his voice against his employer because he is being underpaid. If he is unhappy he can quit his job.
6. Negroes and other minority groups should not criticize laws passed by Congress since they do not form the majority.
7. Certain places of residence should be restricted to certain types of people.
8. Some of the strange and bizarre religious ideas should be outlawed.
9. Each individual has the right to criticize even his own parents.

10. Sometimes a military revolution is needed to achieve social change.
11. Unpopular views, as Communism, should not be allowed to be expressed openly.
12. Certain groups deserve special social considerations because of their skills and intelligence.

The four positive items on the scale were numbers 1, 2, 5, 9 and the others eight items were negative ones. The procedure used in responding to the items was to allow six choices of response for each item: very much, pretty much, or little agreement, and the same degrees of disagreement, with no middle or neutral category. *Ss* were asked to read the statements and mark them according to how much they agreed or disagreed with them. The responses were converted into scores on I.B.M. cards, and a total score was computed for each *S*. The scores could range between 12 and 84. A score of 12 meant that *S* was highly undemocratically oriented; a score of 84 showed that *S* was highly democratically oriented.

*b. American democratic orientation scale.* This scale was based upon foreign *Ss*' perceptions of democratic ideals as they thought most Americans would feel about them. *Ss* were asked to go over the statements used for the Democratic Orientation Scale and mark them again as they thought most Americans would mark them. Scoring was done in the same way as for the Democratic Orientation Scale. Scores could range between 12 and 84. A score of 12 meant the *S* believed that most Americans were very undemocratically oriented. A score of 84 showed that the *S* believed that most Americans were favorable to democratic ideals.

*c. Measuring foreign students' experiences in the United States.* Two items were used for this purpose.

Item 1: How would you consider the experience you got from your relations with Americans?
1._____very favorable
2._____slightly favorable
3._____slightly unfavorable
4._____very unfavorable
5._____no answer

Item 2: Did you experience any discrimination by Americans?
1._____no
2._____yes . . . . . how?_____

*d. Index of adjustment.* This index was constructed by selecting seven problems which were found in Peterson and Neumeyer's study (13), and in Forstat's research (5), to be among the most important problems which a foreign student might encounter in the United States. These problems were

academic, economic, and social problems. Each *S* was asked to check one column of four for each item indicating the degree of satisfaction for each problem as being "very satisfied," "satisfied," "dissatisfied," or "very dissatisfied."

Weighting was done in the following manner: a checkmark in the "very satisfied" column was assigned one point, a checkmark in the "satisfied" column two points, etc. An adjustment score was computed for each *S* by summing over the scores assigned to each item. Thus, if an *S* checked the "satisfied" column for the seven items, he was assigned a score of 14. The possible scores on the Index of Adjustment could range between seven and 28 and the lower the score the higher the adjustment.

## D. Results and Discussion

### 1. *Hypothesis 1*

*a. Test results.* Distribution of answers to Item 1, measuring foreign *Ss*' experiences in the U.S.A., showed that 48.0 per cent of the respondents reported very favorable experiences through their interaction with Americans, 36.8 per cent got favorable experiences, 7.6 per cent had slightly unfavorable experiences, 3.0 per cent had very unfavorable experiences, and 4.6 per cent did not answer the question. *Ss*' responses were dichotomized into very favorable or favorable experiences and slightly unfavorable or very unfavorable experiences. For the first group of *Ss*, the mean value of scores on American Democratic Orientation Scale was 63.2; for the second group, it was 41.9. A *t*-test revealed the difference between the scores of the two groups to be significant at the .01 level (*t* observed equals 3.3). This confirms Hypothesis 1. *Ss* whose experiences with Americans were favorable tended to believe that most people in the United States were more democratically oriented than *Ss* whose experiences were unfavorable.

Responses to Item 2 showed that the most discrimination was encountered by *Ss* from Kenya, Nigeria, Turkey, Iran, Siam, and India, while the least discrimination was encountered by British, Scandinavian, and Philippino students. One hundred per cent of Kenya's *Ss*, 91 per cent of the Nigerians, 75 per cent of the Turkish, 54 per cent of the Iranians, 50 per cent of the Siamese, and 49 per cent of the Indians indicated that they experienced discrimination by Americans. *Ss* from Kenya, Nigeria, and India reported discrimination based on color, but for most other *Ss*, discriminatory practices were based on their foreignness. Discrimination was encountered in the acquisition of desirable housing, in the accessibility of desired social contacts, in being served in some restaurants or gas stations, and in hotel and motel accommodations.

*b. Some comments on discrimination.* The greater number of *Ss* who

experienced discrimination in the United States reported their personal inconvenience and embarrassment. The following quotations from their comments might illustrate their feelings and reactions to discriminatory practices. *S* from *Kenya* said:

> One big mistake the United States has done is to create an impression in the outside world that America is the very best country. Then here comes a foreign student with very high hopes, only to be terribly disappointed by the conditions existing in the United States . . . to be confronted with discrimination because of his religion, color, or race. Then he begins to believe that Americans don't practice what they preach. I wish in their propaganda abroad they would inject some truth in it.

A *Nigerian S* said:

> I like to say that Americans don't show any respect to a foreign student and especially to a colored one. I was denied services in some restaurants, and accommodation in some hotels. I was once knocked on the head with the butt-end of a revolver by a policeman for trying to have a drink from a public water fountain, because of my color.

An *Indian S* said:

> Americans feel that they are the only cultured, civilized, and super race! They have a high degree of intolerance toward other religious and ethnic groups. Some professors don't seem to like certain Asian students. . . . In their social relations with foreign students, Americans are quite snobbish, artificial, tough, rough, and crazy.

A *Jordanian S* said:

> Once I went to rent a room. The landlady said to me, "we don't rent to foreign students." In my relations with Americans, I found that foreign students are treated as something different. Americans think that they are a better race. They don't care to be nice to foreign students who left everything back home and came to study in their country and live among them.

A *Latin American* said:

> Americans are very proud of their race and culture and in their pride of themselves they show their ignorance of everything outside the United States. They look to people coming from other lands as if they are not their equals. All they know seems to be that there is only Russia and the United States plus jungles in South America, savage and primitive people in Africa, and hunger-dying people in Asia.

### 2. *Hypothesis 2*

*a. Index of adjustment scores.* Table 1 shows that the mean value of scores on the Index of Adjustment was 15.5 for all foreign nationals. *S*s from

China, Japan, Turkey, Nigeria, and Kenya encountered more adjustment problems than the remaining groups. This finding is in accord with Forstat's (5). Six countries were represented in her study, namely, Canada, Norway, India, China, Turkey, and Venezuela. She found that country of origin was significant for students from China, Turkey, and Venezuela in eight of the ten most frequent problems.

To test the hypothesis, the investigator compared scores of *Ss* in the highest quarter of the Index of Adjustment with those in the lowest quarter. Well-

TABLE 1
RANK ORDER OF SAMPLE FOREIGN STUDENTS BY THE MEAN VALUES OF THEIR ADJUSTMENT SCORES

| Rank | Country | Mean values of scores on the index of adjustment |
|---|---|---|
| 1 | Philippines | 13.0 |
| 2 | Scandinavia | 13.9 |
| 2 | Great Britain | 13.9 |
| 3 | Arab countries | 14.1 |
| 3 | Greece | 14.1 |
| 4 | Formosa | 14.4 |
| 4 | India | 14.4 |
| 5 | Latin America | 14.7 |
| 6 | Korea | 15.0 |
| 7 | Iran | 15.1 |
| 8 | Siam | 15.3 |
| 9 | China | 15.6 |
| 10 | Japan | 16.5 |
| 11 | Turkey | 16.7 |
| 12 | Nigeria | 18.6 |
| 13 | Kenya | 20.0 |
| | Total | 15.5 |

adjusted *Ss* on American Democratic Orientation Scale had a mean score of 65.8. *Ss* with more adjustment problems reached a mean score of 40.1. A *t*-test revealed the difference between the scores of the two groups to be significant at the .001 level (*t* observed equals 4.8). The correlation coefficient between the scores of all *Ss* on American Democratic Orientation Scale and on the Index of Adjustment was .13. Although the value of the coefficient of correlation was low, due to many variables which might influence it, this value was found to be significant at the .05 level. These data confirm Hypothesis 2. Students who were more adjusted to the academic and social life in the United States tended to be more favorable toward American democratic orientation than those who had more adjustment problems.

*b. Attitudes of foreign students toward American democracy.* By testing the degree of correspondence between the scores of foreign *Ss* on the "Demo-

cratic Orientation Scale" with the scores attributed to Americans on "American Democratic Orientation Scale" we find that:

1. Almost all foreign *Ss* felt that Americans were less democratically oriented than they themselves were. The only exceptions were Arab, Greek, and Siamese *Ss*. A *t*-test revealed the difference between the mean value of all foreign nationals' scores on Democratic Orientation Scale and the scores they attributed to most people in the United States to be significant at the .001 level (see Table 2).

TABLE 2
DEGREE OF CORRESPONDENCE BETWEEN FOREIGN STUDENTS' SCORES ON THE DEMOCRATIC ORIENTATION SCALE AND THE SCORES THEY ATTRIBUTED TO AMERICANS

| Country | Mean value of foreign students' scores | Mean value of scores attributed to Americans | Difference | Level of significance |
|---|---|---|---|---|
| Arab countries | 54.7 | 57.4 | 2.7* | — |
| China | 53.2 | 50.4 | 2.8 | — |
| Formosa | 54.3 | 51.4 | 2.9 | — |
| Great Britain | 59.6 | 53.9 | 5.7 | .10 |
| Greece | 53.9 | 55.9 | 2.0* | — |
| India | 54.5 | 50.2 | 4.3 | .01 |
| Iran | 60.6 | 53.9 | 6.7 | .05 |
| Japan | 58.7 | 49.6 | 9.1 | .01 |
| Kenya | 56.5 | 49.0 | 7.5 | — |
| Korea | 52.3 | 52.2 | .1 | — |
| Latin America | 54.7 | 53.6 | 1.1 | — |
| Nigeria | 58.6 | 46.7 | 11.9 | .01 |
| Philippines | 57.4 | 56.6 | .8 | — |
| Scandinavia | 62.5 | 53.3 | 9.2 | .001 |
| Thailand (Siam) | 50.3 | 52.0 | 1.7* | — |
| Turkey | 52.2 | 51.2 | 1.0 | — |
| Total | 55.0 | 52.2 | 2.8 | .001 |

* The difference is in favor of the United States.

2. Other *t*-tests revealed the differences between the scores of *Ss* from 10 countries and the scores attributed to Americans to be insignificant.

3. Scores of British *Ss* differed significantly from those attributed to Americans at the .01 level.[2] Scores of *Ss* from Iran, India, Japan, Nigeria, and Scandinavia differed significantly from those attributed to Americans either at or beyond the .05 level.[3] Our findings concerning Iranian, Indian, Japanese, and Nigerian *Ss* should be viewed in the light of their experiences

[2] *t* observed equals 5.4.
[3] Between Iran and U.S.A. *t* value equals 2.2—India and U.S.A. *t* equals 2.7—Japan and U.S.A. *t* equals 3.3—Nigeria and U.S.A. *t* equals 3.2—Scandinavia and U.S.A. *t* equals 4.5.

in the United States. As 54 per cent of Iranian *S*s, 49 per cent of the Indians, 40 per cent of the Japanese, and 91 per cent of the Nigerians encountered discrimination, we should expect their attitudes toward American democracy to be colored by such experiences. As for British and Scandinavian *S*s, Morris's study indicates that from the point of view of status rivalry, students comparing two countries close together in the international hierarchy (their own and the United States) feel more apt to attribute unfavorable characteristics to this country in order to give themselves and their own nation the edge (11). This could explain why British and Scandinavian students felt that they were more democratically oriented than most people in the United States.

On the basis of our findings we conclude that the American educational experience does not *ipso facto* produce in the foreign *S* a favorable attitude toward the host culture. Unfavorable attitudes toward the United States can be expected when the foreign *S* encounters unfavorable experiences through his interaction with Americans and when he is dissatisfied with his academic and social life in the United States.

## E. Summary

The purpose of this paper was to investigate the attitudes of foreign students toward American democratic ideals as carried out by most people in the United States, and to examine the conditions under which they develop their attitudes.

The subjects were 304 foreign students who attended Purdue University during the second semester of the academic year 1959-60. Data were gathered by mailed questionnaires. The statistical analysis showed that almost all foreign students felt that most people in the United States were less democratically oriented than the students themselves. The only exceptions were Arab, Greek, and Siamese students. Democratic orientation scores of subjects from six countries, namely, Great Britain, Scandinavia, Iran, India, Japan, and Nigeria differed significantly from the scores attributed to most people in the United States. Favorable attitudes toward American democratic orientation were found to be related significantly to two intervening variables, namely, favorable experiences encountered by foreign students in the United States, and adjustment to the academic and social life on American campuses.

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# A CROSS-CULTURAL STUDY OF ADOLESCENT ASPIRATIONS*

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## A. INTRODUCTION

This paper is based on an investigation started in England in 1957 and continued in N.S.W., Australia.[1] The general purpose of the project was to study "aspirational patterns" of adolescents during their final years at school. One of the more specific purposes being, to investigate the vocational orientations (expectations and aspirations) of boys and girls prior to their leaving secondary school. In this paper a cross cultural comparison is made of vocational orientations of English and Australian boys.

By vocational orientation is meant, the expressed vocational expectation and aspiration, extending from entry into work to retirement. This incorporates variations on a reality-fantasy dimension.

Aspirations are viewed as a complex of attitudes, centred on an affectively regarded goal. Each specific aspiration being part of, what Merton describes as, a "framework of aspirational reference" (2). A frame of reference which embodies the person's values, general orientation, and which itself is a reflection of culturally defined goals and institutionalized means of reaching these goals.

Of the many specific aspirations, vocational aspirations are likely to be modal, since they determine to a large extent the life chances of the individual. It is through participation in the social relations of work, that the individual obtains means for gratification of many of his needs and desires. In this sense, vocational orientations are indicative of perceived means to the achievement of goals, not necessarily as goals in themselves. It follows that cross-cultural variations in vocational orientations should provide an indication of cultural variation in the more general "framework of aspirational referants."

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[1] The English Study was conducted under the direction of Professor C. A. Mace, Birkbeck College, University of London, and was supported by a grant from the Nuffield Foundation.

## B. Method

### 1. *Subjects*

The *Ss* were 408 English and 240 Australian boys aged 14-16 years. The sample was drawn from the school population of 10 schools, five of these in an Industrial area of Southern England and five situated in a comparable area of New South Wales. One of the five schools in each sample was a "Selective Secondary School," *i.e.,* one for which pupils were selected in terms of academic attainment at primary school level.

The class of origin of *Ss* in each sample was similarly comparable as Table 1 shows.

TABLE 1
SHOWING CLASS OF ORIGIN OF SUBJECTS EXPRESSED AS PERCENTAGE FREQUENCIES OF TOTAL SAMPLE

| | Unskilled-Skilled manual workers | White-Collar (professional & employers, clerical, etc.) |
|---|---|---|
| English sample | 67 | 33 |
| Australian sample | 64 | 36 |

### 2. *Methods*

The investigation was carried out within the school situation by the author in Australia—and members of a research team in England. Data were obtained using a variety of instruments, including a questionnaire, teacher ratings, various projective techniques. As part of the questionnaire the following questions were asked:

What in fact do you expect will be your first job after leaving school?
What do you think will be your job 2-3 years after leaving school?
What do you expect will be your job after 9-10 years?
What do you expect will be your job just before you retire?

Answers to these questions were analyzed using the following index of "Vocational Orientation."

X—The subject gives no indication of expecting any change in occupation or status after entry into work.

Y—The subject expects to make changes, but these changes do not involve any alteration in status.

Z—The subject indicates an expectation of vertical mobility, i.e., improvement in his occupational status.

The realism of the *Ss* vocational expectation was assessed in a follow-up study carried out by the author in England, where information was obtained on the actual occupation entered by *Ss*.

## C. Findings and Discussion

A comparison of expected job with that actually achieved, showed that 78 per cent of the sample entered the job which they had expected to enter. This evidence of realism in expectation, is further exemplified by the type and level of occupation expected. Thus 59 per cent of the English sample and 51 per cent of the Australian sample expressed as their expectation and highest level of aspiration, achievement of unskilled or skilled manual work. If entry into work thus reflects a realistic assessment of life chances it may be assumed that occupational expectations thereafter, reflect the aspirational frame of reference of *S*s.

TABLE 2

Showing Percentage Frequency of Total on Index of Orientation for Australian and English Sample Respectively

| | Index of orientation | | |
|---|---|---|---|
| | X (No change) | Y (Change limited) | Z (Change in status) |
| English sample | 60 | 17 | 23 |
| Australian sample | 58 | 5 | 37 |

Inspection of Table 2 shows that the majority of *S*s in both samples does not appear to aspire to, or expect, any change in occupation, or level of occupation throughout their working life. This suggests that an aspirational framework, variously defined as an "Ideology of Success" (Merton (2) Ischheiser (1)), is not operative for the larger proportion of either sample. The "Ideology of Success" being an aspirational framework, in which the goal is achievement of status, and the associated means, personal competence, and personal worthiness, ensuring occupational mobility. For approximately 60 per cent of each sample there is no evidence of either expectation, or aspiration, for achieving status mobility in the work field.

Whilst there is an almost surprising similarity in the proportion of sample, in which this absence of the "Ideology of Success" is evident, there is a significant difference between the Australian and English sample on change with status, Category Z, of the Index of Orientation. The Australian boy, if he expects to change occupation, is more likely than his English counterpart, to expect or aspire to, a change which produces increased power, prestige and monetary reward.

Does this reflect a difference in the dominant aspirational frame of reference of the two cultures?

An alternative explanation might be that the difference is due to the composition of samples. For instance it might be suggested that as educational

and occupational plans tend to approximate to present class position, variations in class of origin, between samples, would account for the difference found. In the present study the correlation between the Index of Orientation and present class is significant, but as Table 1 shows, there is no significant difference in class of origin for the two samples.

Similarly although the Index of Orientation correlates significantly with present educational achievement of subject, the difference between the samples cannot be explained on these grounds. As Table 3 shows the English sample if

TABLE 3
SHOWING PERCENTAGE FREQUENCY OF SAMPLES IN DIFFERENT TYPES OF SCHOOLS

| | Selective secondary school | Non-selective school |
|---|---|---|
| English sample | 35 | 65 |
| Australian sample | 29 | 71 |

anything, has a greater proportion who have achieved scholastic success by being in a "selective Secondary school" and hence are more likely to have aspirations involving status mobility.

Whilst the numerical inadequacy of samples suggests caution in interpreting results, the difference between the two groups, in the aspirational frame of reference is significant. It does suggest that the Australian boy more frequently uses an aspirational framework which reflects a cultural difference in appraising life chances. He is more likely to perceive opportunities to vary his occupational status, a mobility which is not limited by factors over which he has no control.

## D. SUMMARY

Vocational Orientations, expressed in answer to a number of questions, were compared for a sample of Australian and English male adolescents.

Vocational choice, *i.e.*, expectations of type and level of occupation to be entered, appeared to be made on a realistic assessment of life chances. Similarly occupational plans thereafter reflect this realism.

The greater proportion of both samples indicate orientations to the future which do not reflect acceptance on an "Ideology of Success." Instead no change throughout the working life is expected. There is an absence of an aspirational framework in which improvement in status acts as a major stimulant.

A minority of both samples, with a significantly higher proportion of the Australian sample, expect status mobility. It is suggested that the difference between the two samples reflects a major difference in the cultural frame of

reference. The Australian adolescent being more exposed to an aspirational frame of reference in which the achievement of mobility in the sphere of work, is seen as both desirable and possible.

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# AFRICAN INTELLIGENCE: A CRITICAL SURVEY OF CROSS-CULTURAL INTELLIGENCE RESEARCH IN AFRICA SOUTH OF THE SAHARA*

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## A. INTRODUCTION

The study of racial intelligence and more specifically the comparative study of Negro vs. White intellectual ability is one of the best explored areas of research within the broader context of the study of racial differences. In both the United States and Africa a substantial body of knowledge has been accumulated comparing Negro intelligence with White intellectual capacity. One of the incentives to concentrate somewhat onesidedly on the study of racial intelligence undoubtedly has been the theory—first formulated by De Gobineau in 1853—that there is a fundamental inequality between the various human races as far as their native endowments are concerned. Many attempts have been made to corroborate c.q. refute this viewpoint, and by so doing, to give some kind of scientific status to what originally was no more than a pseudo-scientific apriorism. That these efforts have largely gone into the comparative study of Black and White intelligence, is easily understood. The contact between the White and the Negro races has been one of the most intimate, and consequently, the specific claim of the intellectual superiority of the White man over the Negro has most explicitly been made. Unlike the American studies in this field, which came to be widely-known through the surveys of Garth (20), Klineberg (30), Anastasi (1), and more recently McGurk (34, 35), the African studies are relatively unknown, partly because they are scattered through many and often less accessible journals, monographs, colonial reports, etc. The process of Africa's de-colonialization, however, which is witnessed today makes the question of African intelligence one of utmost actuality and significance. The rapid strides which the continent has to make in its transition from socio-cultural, economic and technological under-development towards better ways of life, and the urgent need for indigenous leadership in Africa's newly emerging nations constitute problems which directly refer to the question, whether the autochtonous African has

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the potentialities to deal effectively with such problems. The purpose of this paper will be to review the research done on African intelligence, to discuss pertinent conclusions and, where appropriate, to compare them with American findings in the field.

## B. Morphological and Physiological Studies of the African Brain

In view of the inferences made from these studies regarding intelligence, it seems appropriate to begin with a brief survey of those investigations dealing specifically with the morphological structure and physiological functioning of the African brain.

### 1. *Morphology of the African Brain*

With regard to brain size and weight, one of the earliest studies in this field was that of Bennington (6). This investigator, determining the cranial capacity of 193 African skulls from the Congo and the Gaboon, arrived at an average cranial value of 1337 cc. (cubic centimeters) for men, and of 1227 cc. for women. Vint (51) investigated the cranial capacity of 389 adult men from Kenya and found an average brain volume of 1230 cc. and an average brain weight of 1276 grams. Comparing the latter figure with the European standard value of 1428 grams, Vint concluded that the African brains were only 89.4 per cent of the average volume of European brains. In a similar study, Gordon (25) using a sample of 1290 adult males in Nairobi (Kenya), assessed their average brain capacity at 1316 cc. Taking as his European standard the figure of 1481 cc., Gordon inferred that the average African cranial volume was 88.9 per cent that of the European White. In his analysis of the above findings, Carothers (14) deviates from both Vint's and Gordon's European standards by referring to an average White cranial index of 1450 cc. Though the absolute figures mentioned vary slightly, the general conclusion that may legitimately be drawn from the above investigations is that the average African brain seems to be somewhat less well-developed than that of the average European White.

Referring to brain shape, Vint (51) observed that the African brain is characterized by an inferior organic development, particularly accounted for by a failure in the development of cerebral height and the narrow and blunted shape of the temporal regions of the cerebrum. In a study of a sample of American Negroes, Connolly (16) partly contradicts Vint's observations by concluding that the inferior character of the Negro brain, compared to White brains, is to be found an organic underdevelopment of the frontal and occipital lobes. Other studies by Bianchi (7) on Zulu brains, Sergi (47) on Herero

brains, and Genna (23) on West African (Cameroons) brains, are in general agreement with the above findings concerning the organic inferiority of Negro brains when viewed from White standard proportions. Though the results are not unanimous, the studies cited seem to indicate that in comparison to the White man's brain, the Negro cerebrum is characterized by smaller frontal lobes, a reduced height of the brain in favour of a more pronounced dolicocephalic development, and possibly, a somewhat deviating morphological structure of the temporal lobes.

Concerning racial differences in brain fissuration, Bork-Feltkamp (14), in a study of six African brains, reports a predominantly longitudinal direction of the fissures. Connolly (16), comparing 30 White and 30 Negro brains (the latter sample consisting of 28 American Negroes and two South African Zulus) found a significantly greater degree of fissuration and of anastomosis between the fissures in the White brains, a difference not wholly accounted for by the above-mentioned greater size of the White brain.

Two investigations of Vint (50, 51) are of importance with regard to the cortical histology of the African brain. In a study of specimens of 100 East African brains, this investigator found that the lamina supra-granularis was decidedly thinner than the same layer in the White brains; and that the pyramidal cells of the supra-granular cortex and the Betz cells of the motor area were smaller, more undifferentiated, than in the European brain. The number of cells per unit area was not, however, significantly different. Since the incidence of diseases was relatively high in the sample from which the specimens were taken, a causal relationship between the latter fact and the undifferentiated nature of the cortical cells may validly be suspected.

### 2. *Physiology of the African Brain*

The study of the physiology of the African brain is a relatively recent scientific endeavor which had to wait particularly for the development of the EEG-technique. The pioneering study in the field has been that of Gallais and collaborators (19). Analyzing the EEG's of 100 normal and healthy soldiers from Guinea, these investigators observed that no less than 58 per cent were in some way abnormal. This percentage compares very unfavorably with an abnormality rate of only 13.1 per cent in a sample of 3,000 White EEG's reported by Gibbs. In clear contradistinction to the results of this first study are the findings of Mundy-Castle *et al.* in South Africa and those of Verhaegen in the Congo. In a comparative study of 66 Bantus and 72 Whites, the former (38) found no significant difference in the incidence of abnormal EEG's between the two groups. Interpreting the EEG's of 74 male Bantus

from Katanga province (Congo), Verhaegen (48) observed, that the number of anomalies was within the range of 10.8 to 17.5 per cent, the exact figure being dependent on the type of criterion used. Comparing these figures with a range of five to 15 per cent abnormal EEG's reported by Kennard for a healthy White group, the investigator concluded that there is no significant difference in the abnormality ratio between Africans and European Whites as far as EEG-patterns are concerned. In an attempt to explain the very high abnormality ratio found by Gallais *et al.*, both Gallais (19) and Mundy-Castle (38) hypothetically inferred that the Guinean sample apparently had not been as healthy as was originally assumed and that organic deviations like endemic infectious diseases, malnutrition, etc. might have unfavorably affected the results.

Although the above studies constitute by no means an exhaustive account of the research done in this field, the sum total of the empirical evidence cited suffices to validly assume that there are certain morphological differences in brain structure between Whites and Africans. To be more specific, it has been demonstrated that as far as brain size, shape, fissuration and cortical histology are concerned, the average African brain is somewhat deviant from the standard proportions of its White counterpart.

### 3. *Brain Morphology and Intelligence*

A fundamental question which remains to be answered in connection with the above findings is, whether there exists a relationship between brain morphology and the level of intellectual functioning. Or, put somewhat differently, whether an organically less well-developed brain correlates with intellectual inferiority. With regard to brain size, Carothers (14, p. 77)—referring to an observed correlation coefficient of .1 to .2 between head size and level of intelligence—expresses the opinion that the lesser volume of the African brain is in no way indicative of a lower level of intellectual functioning. Support for this viewpoint is given by Connolly (16, pp. 260-4) who reports empirical evidence for the fact that brain weight has little relation to the level of cultural development. Citing studies by Spitzka and Bushmakin, Connolly pointed out how culturally inferior tribes like the Eskimos and the Buriat Mongols seem to be characterized by possession of a significantly greater brain than the White man.

Frequent inferences concerning the less well-developed frontal area of the African brain have been made to the effect that this feature constitutes the organic basis for the alleged intellectual inferiority of the non-White. Carothers, for instance, in an earlier study (13) referring to this morpho-

logical characteristic of the African brain, related it to what he called the "frontal idleness" of the African intellect, *i.e.*, an insufficient functioning in the African's thinking process of those intellectual abilities which are localized in the frontal lobe. As such he mentions in particular the African's incapacity to see specific reactions as parts of whole situations. This construct of "frontal idleness," however, as a particular characteristic of African intelligence is not corroborated by McFie (33). Submitting a sample of African nurses in Uganda to the WISA scale, this investigator observed that the nurses—in solving those subtests (block design and picture arrangement) which usually pose serious problems in instances of frontal deficiency or malfunctioning—proved equally effective as in all other subtests of the scale. With regard to brain fissuration and the histological structure of the cortex, both Carothers (14, p. 80) and Verhaegen (49, p. 54) state that there is no scientific evidence sufficient to assume that mental capacity is in some degree related to the surface or structure of the cerebral cortex.

The general conclusion, then, to be drawn from the above anatomical and physiological brain studies is that there is sufficient empirical evidence indicating the existence of morphological differences between White and Negro brains, but that there is no sufficient evidence to indicate that the morphological peculiarities found in the African brain are of functional significance, *i.e.*, account for an alleged intellectual inferiority.

## C. African vs. White Intelligence: Comparative Psychological Studies

### 1. *Earliest Studies*

The psychological study of African intelligence has largely been concentrated in comparing the African's level of intelligence—as operationally determined by his scores on intelligence tests—with that of the European White. One of the first studies to be undertaken in this field was that of Fick (17), who in 1929 applied the U.S. Army Beta test to 293 Zulu children in South Africa, and compared their performances with those obtained from 10,000 South African White, Cape Coloured and Indian children. The main outcome of this study was that the African median was significantly lower than that of any of the non-African groups. Only a ratio of 1.2 per cent of the Zulu children reached or exceeded the medians of White children of identical age. A similar study was done by Oliver (39) in Kenya. Utilising a battery of non-verbal group tests of the letter and digit substitution type, this investigator compared the scores of 93 African schoolboys averaging an age of 19.6 years and those of 124 European schoolboys with an average age of 15 years.

The average African score on these tests was in the neighborhood of 85 per cent that of the European and only 14 per cent of the African group reached or exceeded the European mean. Porteus (45, p. 257) submitted a sample of 182 adult Bantus from South Africa, Southern Rhodesia and Mozambique to his maze test and determined their average mental age at 10.52 years. A group of 25 Bushmen from the Kalahari desert (Bechuanaland) scored significantly lower and obtained an average mental age of 7.56 years. A study that came to be widely known was another, more extensive, intelligence test of South African Bantus by Fick (19), the investigator cited above. On the basis of a number of non-verbal tests, chiefly individual performance tests—Worcester form boards; Knob cube test; Malherbe's match test; Porteus maze and form and assembly tests; U.S. Army Beta test; and a mirror drawing test—which were applied to 557 African schoolchildren, ranging in age from 10 to 17 years, Fick concluded that the mental age of the African population of the Union of South Africa was four to five years below that of South Africa's European population.

### 2. *Studies after World War II*

The above investigations, undertaken in the decade between 1929 and 1939 were resumed after World War II, and the first researcher to report significant results was Barbé (4). Studying the intellectual capacities of both school and illiterate children and adolescents in French West Africa, she applied a mosaic test in combination with the intelligence scales of Burt and Piéron to the literate category, and a non-verbal battery consisting of the Koh's cube and construction tests and a simple animal jigsaw to the illiterate group. In the first category, the average mental age of the children, ranging in chronological age from 10 to 12 years, was no more than eight years, as determined by the mosaic test. Burt's test, usually successfully solved by the majority of 11 to 12 year olds among Whites, was done so only by the majority of the 16-year-old adolescents among the African group. The average performance on the Piéron "examen psychologique" administered to the 15 year olds yielded a surprisingly high 60-percentile score. The results of the illiterate group were most disappointing. The average mental age obtained on the Koh's cube construction test was as low as five years while the animal jigsaw, designed for correct solution by 3-year-old infants among Whites, was not correctly handled by any of the African subjects, irrespective of age. Other observations by Barbé were that the females performed worse than did the men, suggesting a more pronounced intellectual backwardness on their part, and that mixed-bloods did significantly better than did the pure Blacks.

A relatively intensive study performed by Augusto (3) in the Portuguese colony of Mozambique compared the intelligence test performance of 849 Africans with that of 100 Portuguese soldiers, the majority of whom had received only a very rudimentary schooltraining. Submitting both racial groups to a selection of test-items drawn from well-known intelligence tests like the original Binet and the Terman-Merrill scales, Augusto evaluated the performances in terms of a point-system with a maximum score of 100. The African male group averaged a score of 58.7 points against 81.5 points for the White soldiers. Augusto also observed that women were significantly inferior in intelligence test performance than African men. Their average score was 45.4 points. An assessment of the intellectual capacities of the autochtonous population of the Spanish possessions in Africa was undertaken by Gonzales (24). Using a sample of 273 African male and 146 female subjects ranging in age from seven to 20 years and a White control group of 15 schoolchildren, aged eight to 12, this investigator submitted both groups to 20 test items selected from intelligence scales by Binet, Bobertag and Yerkes. The main outcome of the comparison was again that the performance of the African sample lagged decisively behind that of the White control group. The average mental age of the Africans was 10.9 years (average chronological age was 13.6 years), and showed a tendency to decrease with an increase in age. The average IQ of the 15 year olds was 81, that of the 20 year olds 59. The average IQ of men as compared to women was 70 to 60, respectively. Only 5.4 per cent of the 273 male subjects reached an intelligence level that could be called normal or average (IQ, 90-110). In contradistinction to Barbé's observations, the mixed-bloods in Gonzales's sample did not perform better than did pure Negroes. There was a slight but significant urban-rural difference in test scores, with the urban African consistently outscoring the rural. The most intensive comparative study of African intelligence was done by Maistriaux (32) who, upon request of the Belgian government, tested various indigenous categories of Africans in the former Belgian Congo and in the trust territory of Ruanda-Urundi. Utilising a battery of non-verbal tests with a high saturation in the G-factor, Maistriaux applied this battery to both illiterate Congolese in the bush and to children in the process of receiving some kind of formal education. Their performances were compared with those of two distinct categories of Belgian children: a mentally retarded and a normal group. The most important test used was the "Test de Niveau Genéral" (T.N.G.), an adaptation by Maistriaux of the Koh's cube and construction tests. The exact scores received by both the African and White subjects on the child series of the test are reported in Table 1. The observa-

TABLE 1
SCORES CHILD SERIES T.N.G.

| N | Subjects | Average score Section I | Section II |
|---|---|---|---|
| 105 | Illiterate Africans (Kasai, Kivu) | 14.89 | 15.99 |
| 23 | Retarded White Child., I.Q. below 60, age 8 to 16 (Belgium) | 14.70 | 15.25 |
| 127 | African Schoolchild.; age 13 to 20 (Ruanda-Urundi) | 25.98 | 36.35 |
| 45 | White Children, age 5 to 6, normal (Congo) | 22.20 | 34.29 |
| | (6 year olds) | (27.66) | (48.0) |

(After Maistriaux, 32, p. 184).

tions to be made from these data are that the test performance of the illiterate Africans equalled that of the group of mentally retarded White children whose IQ was known not to exceed 60; that the educated group of Africans averaged an intelligence test score which was more or less the equivalent of the average performance of a 5-year-old White child; that there was a definite distinction in test performance between the illiterate and literate African samples in that the educated group consistently outscored the illiterate one.

Reviewing the above studies representing the majority of significant investigations done on the level of African intelligence as compared to White intellectual ability, the conclusion that the African is apparently inferior to the White man in intelligence test performance appears to be perfectly valid. However, the question whether this may be taken as an indication of an inferior intellectual endowment on the former's part has still to be answered.

## D. Qualitative Analysis of African Intelligence

### 1. *Positive Aspects*

Apart from studies dealing with the quantitative level of African intelligence, considerable research has gone into the exploration of the qualitative aspects of the latter's intellectual capacities. As such, questions were asked as to the primary abilities underlying the African's thinking process, specific African-White distinctions in this respect, etc. Augusto's study cited above (3) was one of the first to concern itself with this aspect of cross-cultural intelligence research since it demonstrated that—in addition to a general quantitative difference in intelligence level—the comparative graphs of intellectual performances by Africans and European Whites were distinctly dissimilar. The African subjects were observed to excel or out-perform the

Europeans in test items like the understanding of questions, absurdities, free association, interpretation of pictures, memory for figures, and picture completion. Bourdel (12) while doing psychological field-work among the Oubangien in the French Sudan, observed that the memory of these tribesmen was decisively superior to that of European Whites. Other positive aspects reported of African intelligence were a greater creative imagination of East African children than that of their European peers as revealed through drawings (2); and a remarkable precocity of the African infant in both psychomotor and intellectual development during its first year of life. Geber (21, 22), studying a sample of 354 African babies from South, East and West Africa, observed them demonstrate a definite advance in development over European standards with regard to posture and locomotion and, from five to seven months onwards, a level of adaptivity, sociability and language development equal to that of European children two or three months older. Abrupt weaning practices after the first year of life which are relatively common to many African cultures were considered to constitute a sudden interference with this favorable development, thus explaining the slower intellectual development of the African child in subsequent years.

### 2. *Negative Aspects*

On the negative side, regular mention is made of the African's weakness in memorizing (in contradistinction to Bourdel's observations), concentration, speed performance, conceptualization and the manipulation of mathematical and spatial relationships. One of the most intensive studies explicitly dealing with qualitative differences in African-White intelligence is that of Heuse (27). Comparing the intellectual performances of 93 soldiers from Guinea and the French Sudan with an average age of 24.4 years with those of various White control groups, this investigator found that in memorizing the African's performance was generally .8 that of the Eur-American White; that there is an essential weakness in his ability to concentrate and to keep up a sustained effort when performing intellectual tasks; and further, that, in the case of Africans, the time required for the solution of performance tests exceeds considerably the average time requirement of European subjects. As to the latter aspect, Ombredane *et al.* (43) have corroborated the hypothesis of a general mental slowness on the part of the African. In a comparative study of 159 adult Congolese mine workers and of 190 Belgian schoolchildren of lower age, it was observed that only 17 per cent of the children took as long in solving the Rey performance test as did the average African. Ombredane cautions, however, that this observation is not necessarily indicative of

an inborn mental inertia on the part of the African, but that it is more plausibly explained by a culturally determined lack of interest in speed performance.

Relative unanimity among students of African intelligence exists with regard to the African's incapacity for perceptual analysis, *i.e.*, the mental disengagement of a more or less complex perceptual Gestalt into its constituent parts. Furthermore, frequent mention is made of his weakness in manipulating abstract concepts and mathematical and spatial relations. Reporting on the test performance of 261 Nigerian students on selected items from the Stanford-Binet and Drewer-Collins scales, Clarke (15) observed how problems like ball-in-a-field, dissected sentences, block design and cube construction, posed most serious problems to these students and that their attempts to solve them had all the characteristics of a non-understanding, trial-and-error approach. In a comparative study of 125 White and 125 African children in South Africa, ranging in age from 12 to 15 years, Biesheuvel (9) found that the African children's performance was distinctly inferior in Koh's block and cube construction tests. Similarly, the poor performance of Barbé's African subjects on the mosaic, animal jigsaw, and Koh's tests (4); of Maistriaux's Congolese on the T.N.G. test (32); of Heuse's African sample on the Bize assembly test, the Bonnardel "test de disques," and the Binet cube test (27), reveals the same trend: the African's inability to transcend the syncretic form of a perceptual Gestalt, and, consequently, his general weakness in forming abstract concepts.

On the basis of the above observations, students of African intelligence like Wintringer (52) have postulated a decisive qualitative difference in European and African intellectual functioning. White intelligence would be based predominantly on abilities like analytic perception, conceptualization and the manipulation of mathematical and spatial relations. African intelligence, on the other hand, would be of a much more concrete and global nature, characterized by syncretic perception and a general lack of abstractive ability.

### E. The "Nature-Nurture" Issue in African Intelligence Research

As to the interpretation of their research data, the students of racial intelligence generally belong to either of the following schools of thought. One category, taking a predominantly nativistic view, conceives the observed Negro-White differences in intelligence test performance as indicative of an inborn intellectual inferiority of the Negro. The other, adhering to a more pronounced environmental viewpoint, holds that the inferior test performance

of the Negro is largely, if not fully, accounted for by unfavorable environmental factors such as the lack or inadequacy of educational opportunity, intellectual stimulation, socio-economic challenges, the absence of truly "culture-free" tests, etc. These factors are assumed to have operated as uncontrolled, intervening variables in most comparative studies of Negro-White performance on intelligence tests. The exponents of this so-called "culture hypothesis" (35, p. 55) therefore categorically reject as unproven the claim of an inborn intellectual inferiority on the part of the Negro. This dichotomy of interpretation, so clearly crystalized in the American literature on cross-cultural intelligence research, may also be found in the African studies.

### 1. *Nativistic Interpretations*

Porteus and Fick are the main exponents of the viewpoint that the observed differences in intelligence test performance between European Whites and African Negroes should be interpreted as evidence for an innate intellectual inferiority on the latter's part. Porteus (45, pp. 310-8), though not fully insensitive to the effects of environmental factors on intelligence, compared the performance of the African Bantus and Bushmen with that of a sample of Australian aboriginals and found that the average Bantu and Bushman mental ages were significantly lower than that of the Australian tribesmen: 10.52 and 7.56 years vs. 11.01 years, respectively. And since he considered the Australian environment more repressive to proper intellectual development than the African, Porteus interpreted the inferior test performance of the African sample as an irrefutable indication of the hereditary nature of the latter's intellectual inferiority. Similarly, when Fick (18) observed a mental age lag of four to five years between his African sample and a White control group, he found reason to postulate that this should be interpreted as the expression of an undeniable innate mental deficiency on the part of the African. As arguments speaking in favor of such interpretation, this investigator noted that the tests utilised were non-verbal, concrete, and as such, fair to the African; that the African's test scores were inferior to those of the "poor Whites" despite environmental conditions which could be considered equally unfavorable to both groups; that there was a close correspondence between the African's test performance and the level of his scholastic achievement. In a critical analysis of Fick's research data and contentions, Biesheuvel (8) was able to demonstrate that the tests used by Fick were to a varying extent unsuitable as tests of African intelligence in that they assessed skills, abilities and knowledge unfamiliar to African culture: for instance, the appreciation of abstract forms as demanded by the Worcester form boards; the

diagrammatic design of the Porteus maze test; working against a time limit; contents of test items often unknown to non-acculturated Africans, as in the case of the Porteus assembly test. In addition, Biesheuvel pointed out that the equation of the White and African sample was necessarily inadequate in factors like the amount and quality of education received, socio-economic status, incentive to perform well and to cooperate with the investigator. Considering these environmental factors which operated as unfavorable influences upon African intellectual performance, Biesheuvel estimated that the total African decrement from these factors might well have amounted to 30 IQ points per individual score. Formulating these critical comments, which constituted a valid refutation of a nativistic interpretation of Fick's data, Biesheuvel became the most outspoken critic of such theories among the students of African intelligence. The inferior intelligence test performance of Fick's subjects had to be conceived as being primarily determined by environmental factors like the ones mentioned above, rather than being indicative of an inborn, and therefore unchangeable, intellectual inferiority of the race to which they belonged.

### 2. *Socio-cultural Interpretations*

At this point, it is interesting to compare the African with the American findings in the field of racial intelligence. American investigations have demonstrated that the Negro's performance on intelligence tests tends to improve with an improvement in his environmental conditions, thus suggesting that the Negro's intellectual achievement seems to a large degree to be a function of the social, material and cultural conditions under which he lives. For instance, the studies by the U.S. Army researchers (53) and by Peterson and Lanier (44), showing a significant difference in intelligence test performance between Negroes of the Southern and those of the Northern states of the country, and Klineberg's research in urban-rural differences in Negro test performance (29), are the corroborative evidence usually cited in connection with this hypothesis. Though it has never been explicitly identified as such, a similar trend may be observed in the African studies. Porteus—despite the interpretation given of his results—could not help to observe a significant difference in test performance between the Kalahari Bushmen and the environmentally more fortunate Bantus of Southern Africa: a mental age of 7.56 years vs. a mental age of 10.52 years, respectively. He also found within the Bantu group a significant intellectual superiority of the partly educated over the illiterates: a mental age of 11.57 years vs. a mental age of 9.47 years, respectively (45, p. 257). Similarly, Barbé (4) and Maistriaux (32) found

a definite difference in intellectual performance between their educated and illiterate African samples with the performance of the former consistently exceeding that of the latter. Utilising Raven's Progressive Matrices 1947 on a sample of Congolese adults, and finding a superior performance on the part of the educated or partly educated subjects, Ombredane (41, 42) interpreted this finding in terms of a favorable effect of some years of rudimentary school training in childhood upon the abstract reasoning capacity at the adult level. Morgan (37) compared the performance of 50 Bantu clerks and 50 Bantu mine workers in South Africa on the seven square test (performance) and observed a distinct difference between the designs made by the literates and illiterates. Those of the literate group were consistently superior to those of the illiterates. Another fact which demonstrates the same point is the considerable improvement shown by Africans as a result of training or coaching on test performance. Comparing the intelligence test performance of 300 White, 300 Indian and 300 Zulu children in Natal (South Africa), Schmidt (46) observed specifically that the inferiorly educated Zulu child profited most from such coaching by gaining no less than an average of 14.55 IQ points. Laroche (31) reports similar gains made by Katangese children in simple test-retest procedure.

Considering the above data, which clearly indicate the tendency of African intellectual achievement to improve with an increase in educational opportunity and practice in test procedure, it appears to the present writer to be more than a mere hypothesis as he postulates the fundamental educability of the African's intellectual potentialities and, consequently, the mainly environmental causation of his inferior performance in the comparative studies of African-White intelligence. Factors like the absence or inadequacy of school training, unfamiliarity with test procedure, and often, with test content, have to be held, at least partly, responsible for the African's poor achievements in these cross-cultural studies. Other factors which are frequently mentioned as having had a similar effect on African test performance include a low socio-economic status, implying a paucity in environmental stimulation; a different motivation and competitive spirit than has the European; the culturally determined unfamiliarity of the African with speed performance; his decisively slower mental reactions; nutritional deficiencies affecting brain maturation, etc. (8, 9). Detailed analysis of the studies cited here will reveal that in almost all the investigations of African-White intelligence one or more of these environmental factors have been operating as uncontrolled, intervening variables, negatively affecting the African's test performance. The claim, therefore, that the inferior test performance of the African in these studies

is indicative of an innate mental deficiency on his part, has to be upheld as long as these variables are not explicitly accounted for (*i.e.*, controlled) in the design of these studies, and unequated samples of European Whites and African Negroes are compared. However, the problems faced in using control group techniques for cross-cultural research purposes in Africa are clearly set out by Biesheuvel (9, p. 51) and cast serious doubts upon their feasibility for a long time to come.

### F. Significance of Qualitative Differences in African-White Intelligence

#### 1. *Cultural Specificity of Intelligence*

Attention was drawn earlier to the existence of qualitative differences between African and White intelligence, indicating that the primary abilities underlying African intellectual performance differ from those underlying the White man's intelligence. The empirical evidence suggesting the prevalence of a concrete way of thinking in the African, and a predominance of abstract conceptualization in the European White's intellectual performance is too substantial to be refuted. The relevance of this observation for the problem under discussion cannot be overlooked. Since there are qualitative differences in Negro and White intellectual functioning, the quantitative differences observed de facto lose their significance, as it implies that the (Western) intelligence tests utilized were most onesidedly aimed at the assessment of mental functions which, in the case of the African, were either non-operative or only rudimentarily developed. An inventory of the research techniques used does indicate that most of them, for instance the Stanford-Binet, Yerkes, Bobertag, Porteus maze, Koh's cubes, Raven's progressive matrices, Piéron's "examen psychologique," etc.—are essentially yardsticks of Western intelligence. As such, they may not only have been unfamiliar to the African and his culture, but also they may have onesidedly probed those abilities which were never, or only insufficiently, developed within that culture. In this context, explicit mention should be made of a fact which has frequently been overlooked by students of racial intelligence: the cultural specificity of intelligence, and subsequently, the absence of universally agreed-upon criteria for its assessment. White investigators are easily tempted to consider the ability to conceptualize, to manipulate abstract symbols and numerico-mathematical relations, etc., as the only true yardsticks of intelligence, whereas the African's ability for concrete perception and retention, his phenomenal sense of spatial orientation, his superior psychomotor behavior, etc., are conceived as in no way related to intelligence. These investigators do not realize that what they

call the "higher" intellectual functions of man are precisely those abilities which are most profoundly emphasized, and consequently reinforced, by the very nature of Western culture, and that the different physical and socio-cultural conditions prevailing in the African environment called for the development and subsequent reinforcement of other, more concrete, abilities, such as those mentioned above. It is precisely this rationale which lies at the root of the frequently made observations that, on the one hand, many of the Western intelligence test problems are completely unintelligible to an otherwise intelligent African; and, on the other, that a European White placed in an African environment and left on his own most frequently demonstrates characteristics of what an African would call unintelligent behavior. Considered from this viewpoint, Barbé's assertion that the African lacks specifically the aptitude for that which appears as the essential function of intelligence (coordinating the parts of a whole, and perceiving abstract relationships (5)), essentially reveals an ethnocentric twist in her interpretation of intelligence. Intelligence and intelligent behavior are culturally specific. The physical and socio-cultural conditions of an environment reinforce certain primary abilities as most significant for adjustment to the problems posed by it, and these in particular become the true diagnostica of intelligence within that environment. At this point it is significant to note that Ombredane (40) characterized the African culture as being of a principally musico-choreographical nature favoring the development of concrete perceptual and artistic abilities, whereas Western culture was conceived as being of a computational-geometric nature favoring the development of conceptualization and predominantly mathematical ways of thinking. The qualitative differences therefore found between White and African intelligence may well be the reflection within the individual mind of a basically different cognitiye orientation of White and African cultures. Taking this into account, the unfairness of utilizing intelligence tests originated and developed in one culture only for the measurement of intelligence in another is obvious. Such practice would not only imply the risk of confronting subjects with an item content alien to their culture, but also—and that is even more fundamental a shortcoming—of assessing abilities which never had a chance of developing because of a lack of cultural reinforcement, and consequently, which do not figure as essential criteria of intelligence within that culture.[1]

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[1] An interesting question which may be raised in this connection is whether the African—though he may not have developed certain abilities and skills through a lack of cultural reinforcement—has the potentiality to do so if required. This question is a very fundamental one, since the answer given to it concerns the African's

## G. Conclusion

The cultural specificity of intelligence, in combination with the earlier observation that intelligence test performance is so intimately related to environmental factors, makes cross-cultural intelligence research a hazardous affair. No matter how carefully constructed, no test is capable of differentiating between mere native ability and the effects of environmental conditioning. Consequently, great caution must be taken in conceiving obtained test results as an exclusive measure of the intellectual capacity of a subject or a group. This is particularly true in underdeveloped countries like those of Africa. The contradictory interpretation of the observed African-White differences in intelligence test performance could only occur because of this fundamental incapacity of the tests used to differentiate between the effects of ability and acquisition. And because of the underdeveloped character of the African environment, the likelihood of a pronounced discrepancy between the African's effective and potential intelligence, *i.e.*, between his actual level of intellectual achievement and what he potentially is capable of achieving, is nowhere greater than just here.

## H. Summary

The preceding article is a critical survey of the research findings on African intelligence, and its comparison with White intellectual performance. First, a brief review is given of morphological and physiological studies concerning the African brain. Their results indicate that there are certain morphological differences in brain structure between Whites and African Negroes. Specifically, in brain size, shape, fissuration, and histological structure of the cortex, the average African brain deviates somewhat from the standard proportions of its White counterpart. There is no conclusive evidence, however, to indicate a relationship between morphological deficiencies of this nature and intellectual backwardness.

The review of the psychological studies concerning African-White differences in quantitative intelligence level reveals a consistent trend of inferior intelligence test scores on the part of the African. Moreover, qualitative differences between the two racial groups have been found in that the

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intellectual fitness to acculturate, *i.e.*, to effectively assimilate certain aspects of Western culture and technological skill. Research concerning this problem has predominantly been done by Biesheuvel's "Institute of Personnel Research" in Johannesburg, South Africa (10, 26, 28, 36), which has been dealing specifically with the African's ability to adapt to industrial settings, to master Western motor and manipulative skill, to understand technological problems, etc. The results obtained, though tentative and not fully conclusive, seem to indicate that the African has such "raw" potentiality.

African way of thinking appears to be of a predominantly concrete type, while that of the European White is of a more abstract nature. The observed differences in African-White test performance have given rise to two opposing interpretations: one, represented by Porteus and Fick, considers the results indicative of an inborn intellectual inferiority on the part of the African; the other, most outspokenly represented by Biesheuvel, interprets the results largely in terms of environmental conditions unfavorable to the African. As such, mention is made of factors like lack or inadequacy of education; low socio-economic status; unfamiliarity with test and test procedure; lack of motivation and competitive spirit; culturally determined unfamiliarity with speed performance, etc. A critical analysis of the arguments advanced by both schools of thought appears to make the environmentalist or socio-cultural interpretation the most plausible. The sum total of the research cited seems to indicate that a definite effect of certain environmental factors upon test performance cannot possibly be denied: for instance, education has consistently the effect of improving African intelligence test scores. Since nowhere in the research cited was an explicit attempt made to control the most significant of these environmental factors, a further argument was that the nativistic viewpoint has to be upheld so long as such control is not effectively exercised. Finally, the observation of qualitative differences in African-White intelligence signifies the operation of different primary abilities in both racial groups. The mainly Western intelligence tests used, therefore, may have not only been alien to African culture as far as their content is concerned, but also may have exclusively probed abilities, rudimentarily or not operative in African intellectual behavior. The distortion of test scores, which would result, makes the observed quantitative differences de facto lose their significance.

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# SOCIAL-CLASS DIFFERENCES IN MOTHERS' EXPECTATIONS FOR CHILDREN IN INDONESIA* [1]

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## A. Problem

In the past three decades research studies have established that certain parental expectations and child-raising practices in American homes vary from one social-class level to another. A comparison of findings over a 25-year period has also shown that child-raising practices are not necessarily constant within a social stratum but may alter from one decade to another (1).

The authors' observations of family life in the city of Bandung, Indonesia, suggested that such would also be the case in this West Java community. More specifically, these observations suggested that certain child-raising attitudes of upper-middle-class and lower-class mothers in Bandung in 1960 might be quite similar to some found by Davis and Havighurst in Chicago during the mid-1940's (2).

Therefore as a point of departure the writers hypothesized that upper-middle-class mothers in Indonesia would expect their children to be weaned sooner, feed themselves sooner, and be more precocious in school work (defined as reading, writing, and counting for the Indonesian study) than would lower-class mothers. The writers further hypothesized that, as in the Chicago study, lower-class children in Bandung would be allowed at an earlier age to play away from home without supervision than would upper-middle-class children.

## B. Sample

Social class was defined by neighborhood and type of housing. Although there is no clear description of social classes for West Java, the writers attempted to approximate American social-class distinctions in the following manner:

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They chose one neighborhood which they termed upper-middle-class because the houses were relatively large, were built of masonry, were well kept up, and had expanses of lawn and flowers in front and in back. All had electricity, inside bathrooms, and running water. Many of the families owned a car. All had servants. The fathers tended to be higher-level businessmen, professional men, police and army officers, and government officials. People with whom the writers talked while searching for the proper neighborhood for this study universally considered this area "one of the nicest."

The other neighborhood was labeled "respectable" lower-class by the writers, because although the families were poor, the fathers were all employed. The houses were crowded together, sometimes with several families in one dwelling. Only a few had yards, and even these were small and without lawn. Most houses were built with a low foundation of brick or cement, on top of which was a wooden framework that supported woven bamboo walls and tile roofs. Most used outside toilets and wells or a pond for water supplies. Some had electricity; others used kerosene for light. The fathers were laborers or skilled workmen, such as coolies, police and army enlisted men, mechanics, carpenters, shoe repairmen, tailors, railroad workers, peddlers, and small shop attendants.

As shown in Table 1, there was a marked contrast in the ethnic backgrounds of the two groups. Ninety of the 100 mothers in the lower-class

TABLE 1
ETHNIC BACKGROUND OF MOTHERS INTERVIEWED

| Ethnic origin | Upper-middle class | Lower class |
|---|---|---|
| Sundanese | 35 | 90 |
| Chinese | 30 | 0 |
| Javanese | 15 | 6 |
| Sumatran | 10 | 0 |
| Half-Sundanese | 6 | 1 |
| Celebes | 2 | 0 |
| Eurasian | 1 | 0 |
| Not reported | 1 | 3 |
| | 100 | 100 |

group were Sundanese (the original ethnic group in West Java). But only 35 of the upper-middle-class mothers were Sundanese. Thirty in the upper-middle group were of Chinese descent. Most of the others were from Central-East Java (Javanese) or Sumatra.

## C. Method of Research

The interviews were carried out by four university girls who, working in pairs, canvassed each house in the defined neighborhoods until 100 mothers had been interviewed in each area. The interviewers found lower-class mothers more willing to answer questions than upper-middle-class mothers. For each of the six questions they were investigating, the interviewers asked, "At what age do you think children should be able to . . . ?" The answers were recorded on a prepared form.

## D. Results

Table 2 shows the results of the mothers' opinions in terms of means and standard deviations.

TABLE 2
Proper Ages for Various Child Behaviors According to Mothers' Opinions

| Behavior | Mother's social class | Mean age | CR[a] $M_U$-$M_L$ | SD | CR[a] $SD_U$-$SD_L$ |
|---|---|---|---|---|---|
| Feed self | Up-mid | 26.4 mo. | .75 | 18.6 | 2.7 |
| | Lower | 28.2 mo. | | 14.5 | |
| Weaned | Up-mid | 9.6 mo. | 8.14 | 3.4 | 7.5 |
| | Lower | 16.6 mo. | | 7.9 | |
| Count 1-10 | Up-mid | 4.02 yr. | 2.50 | 1.2 | .5 |
| | Lower | 3.62 yr. | | 1.1 | |
| Write name | Up-mid | 6.05 yr. | 5.43 | .9 | .0 |
| | Lower | 6.81 yr. | | .9 | |
| Read simple book | Up-mid | 6.76 yr. | 4.50 | .9 | .0 |
| | Lower | 7.43 yr. | | .9 | |
| Play without supervision | Up-mid | 4.20 yr. | 1.42 | 1.9 | 2.6 |
| | Lower | 3.86 yr. | | 1.5 | |

[a] Critical ratio.

The hypotheses that upper-middle-class mothers would expect their children at an earlier age to be weaned, to read a simple book, and to write their name were all supported at statistically very significant levels (critical ratios at or beyond 4.5). Although the average upper-middle-class mother expected children to feed themselves earlier than did lower-class mothers, the difference was not significant.

The hypothesis that lower-class mothers expect children to be able to play away from the house without direct supervision earlier than do upper-middle-class mothers was supported, but only at the .08 level and the difference is thus of doubtful significance.

The hypothesis that upper-middle-class mothers would expect children to count from 1 to 10 at an earlier age than would lower-class mothers was not supported. Rather, the results were the opposite.

The standard deviations for the two groups show to what extent the mothers within one class agree with each other about the behavior being considered. Upper-middle-class mothers were in much greater agreement among themselves on the proper age of weaning than were the lower-class mothers. In the cases of eating alone and playing outside, the lower-class mothers showed greater agreement among themselves. The standard deviations for reading, writing, and counting were identical or almost identical for both class levels.

## E. Discussion

From the standpoint of the items investigated in this study, there is a considerable similarity between the picture of the 1960-Bandung upper-middle-class mother and her counterpart mid-1940's white-American (Chicagoan) parent. Both seem to want their children weaned early and be precocious in academic work but to be later in playing away from home without supervision (2, p. 314).

Likewise in both societies the lower-class mother is more permissive in breast feeding (with the average Indonesian lower-class mother waiting almost twice as long as the upper-middle-class mother).

Our hypothesized picture of a more "academically-anxious" upper-middle-class mother does not, however, seem to be supported by the data that show lower-class Bandung mothers expected their children to count earlier than did upper-middle-class mothers. But this apparent inconsistency possibly could be accounted for by the lower-class Bandung child's need to shop at the bazaar for his mother at an earlier age, so he may need counting ability not related to school work. (In the upper-middle class, servants would more often do the daily shopping.)

Because no studies of such practices have been reported heretofore on this type of Indonesian population, there are no prior data with which the present results can be compared to determine the stability of mothers' attitudes over a period of time. However, in light of the kinds of trends that have been seen in America in recent years, the writers estimate that whatever change might occur in the Bandung populations' attitudes in the future will more likely occur (or will more rapidly occur) in the upper-middle class. These upper-middle-stratum mothers, as the educated and moneyed class, are more likely influenced by what Bronfenbrenner has termed the "agencies or agents of change" (books, pamphlets, physicians). It should be noted that English, as the first official foreign language in Indonesia since the nation achieved independence, is read increasingly by educated families. Because the largest number of books and periodicals related to psychology and child development that

enter Indonesia are from the United States, it seems quite possible that future changes in the upper strata's attitudes may reflect somewhat the child-raising practices recommended by such American publications.

## F. Summary

A sample of 100 lower-class and 100 upper-middle-class mothers in Bandung, Indonesia, were questioned about the ages at which they expected children to be weaned, to feed themselves, to write their name, to count to ten, to read a simple book, and to play out-of-doors without supervision.

Upper-middle-class mothers expected earlier weaning, reading, and writing. Lower-class mothers expected somewhat earlier counting. Though lower-class mothers on an average seemed to expect the child to play unsupervised at an earlier age, the slight difference between the two classes was of doubtful significance. The expectation of the average upper-middle-class mother to have the child feed himself slightly earlier was not statistically significant.

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# A STUDY OF THE EDWARDS PERSONAL PREFERENCE SCHEDULE ON INDIAN COLLEGE STUDENTS*

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## A. PROBLEM

The Edwards Personal Preference Schedule (EPPS) (1) is designed to measure the relative strength of fifteen personality tendencies[2] by means of 210 forced-choice items, and yields a personality pattern of masculinity and femininity derived from the normative population.

The EPPS has been used on Indian College men and women at the Counselling Centre of St. Xavier's College, Bombay, for the last four years. The striking feature of these four years experience has been this: on the one hand, the EPPS has proved useful in counselling these students. The reason for this assertion is that when the results were interpreted to the subjects individually, 98 per cent of the subjects were found to agree with the relative strength of their personality tendencies as indicated by the EPPS' results. That means that these subjects found in the EPPS' results a reflection of what they already knew about themselves, and this knowledge of self confirmed by the test results proved a good basis for counselling and personality development.

On the other hand, it was obvious that there were wide differences in scores between the Edwards Normative Population (ENP) and the St. Xavier's College Population (XCP). These differences were observed particularly in Heterosexuality, Exhibition, Autonomy, and other tendencies.

The object of the present study is to show precisely the similarities and differences between the ENP and the XCP as a whole. Further, it aims at comparing the men and the women of the ENP with the men and women of the XCP.

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[1] The writer is indebted to the M.A. students, Dolly Bharucha, Shirin Darasha, Audrey Lopez, Jeroo Lala and Ramesh Shah, for helping in the calculation of some data.

[2] The tendencies are: Ach, Achievement; Def, Deference; Ord, Order; Exh, Exhibition; Aut, Autonomy; Aff, Affiliation; Int, Intraception; Suc, Succorance; Dom, Dominance; Aba, Abasement; Nur, Nurturance; Chg, Change; End, Endurance; Het, Heterosexuality; Agg, Aggression. These tendencies are defined in Edwards.

## B. Procedure

The subjects of the present study were 288 Indian College students, 147 men and 141 women, from St. Xavier's College, Bombay. They belonged to different classes from the First Year Arts and Sciences to the Senior B.A. and B.Sc. classes. The age of the men ranged from 14 years to 24 years with a mean age of 17.70 years, and a *SD* of 2.46 years. The age range of the women was from 15 years to 22 years, with a mean age of 18.77 years and a *SD* of 2.83 years.

The EPPS was administered to these *Ss* during the last four years as part of a counselling programme. Only those *Ss* who scored above nine in the consistency score were taken for this study. The consistency score is based upon a comparison of the number of identical choices made in two sets of the same 15 items. Edwards (1) states that the probability of 10 or more identical choices occurring by chance is approximately .15. This restriction was introduced to minimize the chance choices in the present study.

This sample is by no means a random sample as all the *Ss* belonged to St. Xavier's College, and therefore it is not representative of Indian College students. Yet, it has in its favour that if this present study shows wide differences between the ENP and the XCP, much wider differences would have been obtained had a truly random sample of Indian College students been taken. The reason for this statement is the well known fact that St. Xavier's College, Bombay, is one of the most cosmopolitan and westernized Colleges of India.

## C. Results

Table 1 shows that the masculinity and femininity patterns exhibited by the ENP are similar to the masculinity and femininity patterns of the XCP. The masculinity pattern of the ENP is Ach, Aut, Dom, Het, and Agg. And its femininity pattern is Def, Aff, Int, Suc, Aba, Nur, and Chg.

Indian College men differ significantly from Indian College women in four tendencies pertaining to American masculinity, viz., Ach, Dom, Het, and Agg. They add to their pattern End, and Ord, and are not distinguishable from women in Def.

Indian College women differ significantly from Indian College men in six tendencies pertaining to American femininity, viz., Aff, Int, Suc, Aba, Nur, and Chg. They drop from their pattern Def, and add instead Agg.

Table 2 compares American women of the ENP with Indian women of the XCP. Six personality tendencies are found in similar amounts both in American women and Indian women. These are: Def, Aut, Int, Suc, Chg,

TABLE 1

DISTRIBUTION OF MEAN RAW SCORES AND *SD*s FOR TWO POPULATIONS

| Variable | Edwards normative population | | | | St. Xavier's College population | | | |
|---|---|---|---|---|---|---|---|---|
| | Men | | Women | | Men | | Women | |
| | Mean | *SD* | Mean | *SD* | Mean | *SD* | Mean | *SD* |
| 1. Ach | 15.66* | 4.13 | 13.08 | 4.19 | 16.20* | 3.69 | 14.20 | 3.80 |
| 2. Def | 11.21 | 3.59 | 12.40* | 3.72 | 12.92 | 3.54 | 12.75 | 3.54 |
| 3. Ord | 10.23 | 4.31 | 10.24 | 4.37 | 13.31* | 4.63 | 11.33 | 4.29 |
| 4. Exh | 14.40 | 3.53 | 14.28 | 3.65 | 12.97 | 4.27 | 12.13 | 3.76 |
| 5. Aut | 14.34* | 4.45 | 12.29 | 4.34 | 12.57 | 4.02 | 12.85 | 3.65 |
| 6. Aff | 15.00 | 4.32 | 17.40* | 4.07 | 12.55 | 4.16 | 15.56* | 3.77 |
| 7. Int | 16.12 | 5.23 | 17.32* | 4.70 | 15.15 | 4.61 | 16.74* | 4.79 |
| 8. Suc | 10.74 | 4.70 | 12.53* | 4.42 | 10.88 | 4.50 | 12.89* | 4.58 |
| 9. Dom | 17.44* | 4.88 | 14.18 | 4.60 | 15.55* | 4.64 | 12.98 | 4.83 |
| 10. Aba | 12.24 | 4.93 | 15.11* | 4.94 | 15.54 | 5.14 | 17.97* | 4.62 |
| 11. Nur | 14.04 | 4.80 | 16.42* | 4.41 | 15.23 | 4.32 | 18.11* | 4.43 |
| 12. Chg | 15.51 | 4.74 | 17.20* | 4.87 | 14.81 | 4.23 | 17.54* | 4.39 |
| 13. End | 12.66 | 5.30 | 12.63 | 5.19 | 16.23* | 5.32 | 13.52 | 6.23 |
| 14. Het | 17.65* | 5.48 | 14.34 | 5.39 | 11.22* | 7.70 | 8.50 | 6.47 |
| 15. Agg | 12.79* | 4.59 | 10.59 | 4.61 | 14.62* | 4.41 | 12.75 | 4.86 |
| Con | 11.53 | 1.88 | 11.74 | 1.79 | 11.83 | 1.68 | 12.33 | 1.37 |
| N | 760 | | 749 | | 147 | | 141 | |

* Mean is significantly greater, at one per cent level, over opposite sex in each population.

TABLE 2

DISTRIBUTION OF MEAN RAW SCORES AND *SD*s FOR AMERICAN COLLEGE WOMEN AND INDIAN COLLEGE WOMEN AND THE *t* RATIOS OF THE SIGNIFICANT DIFFERENCES BETWEEN THE MEANS

| Variable | Edwards normative population | | St. Xavier's College population | | *t* | Sig. per cent |
|---|---|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* | | |
| 1. Ach | 13.08 | 4.19 | 14.20 | 3.80 | 3.17 | .01 |
| 2. Def | 12.40 | 3.72 | 12.75 | 3.54 | — | |
| 3. Ord | 10.24 | 4.37 | 11.33 | 4.29 | 2.73 | .01 |
| 4. Exh | 14.28 | 3.65 | 12.13 | 3.76 | 6.27 | .001 |
| 5. Aut | 12.29 | 4.34 | 12.85 | 3.65 | — | |
| 6. Aff | 17.40 | 4.07 | 15.56 | 3.77 | 5.27 | .001 |
| 7. Int | 17.32 | 4.70 | 16.74 | 4.79 | — | |
| 8. Suc | 12.53 | 4.42 | 12.86 | 4.58 | — | |
| 9. Dom | 14.18 | 4.60 | 12.98 | 4.83 | 2.74 | .01 |
| 10. Aba | 15.11 | 4.94 | 17.97 | 4.62 | 6.70 | .001 |
| 11. Nur | 16.42 | 4.41 | 18.11 | 4.43 | 4.16 | .001 |
| 12. Chg | 17.20 | 4.87 | 17.54 | 4.39 | — | |
| 13. End | 12.63 | 5.19 | 13.52 | 6.23 | — | |
| 14. Het | 14.34 | 5.39 | 8.50 | 6.47 | 10.14 | .001 |
| 15. Agg | 10.59 | 4.61 | 12.75 | 4.86 | 4.90 | .001 |
| Con | 11.74 | 1.79 | 12.33* | 1.37 | | |
| N | 749 | | 141 | | | |

* Mean consistency score is not comparable, for only *S*s who obtained consistency scores above nine were taken for this study.

and End. Indian women differ significantly and favourably from American women in Ach, Ord, Aba, Nur, and Agg, while American women differ significantly and favourably from Indian women in Exh, Aff, Dom, and Het.

Table 3 compares American men of the ENP with Indian men of the XCP. Four personality tendencies are found in similar amounts both in

TABLE 3

DISTRIBUTION OF MEAN RAW SCORES AND *SD*s FOR AMERICAN COLLEGE MEN AND INDIAN COLLEGE MEN AND THE *t* RATIOS OF THE SIGNIFICANT DIFFERENCES BETWEEN THE MEANS

| Variable | Edwards normative population | | St. Xavier's College population | | | Sig. |
|---|---|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* | *t* | per cent |
| 1. Ach | 15.66 | 4.13 | 16.20 | 3.69 | — | |
| 2. Def | 11.21 | 3.59 | 12.92 | 3.54 | 5.80 | .001 |
| 3. Ord | 10.23 | 4.31 | 13.31 | 4.63 | 7.47 | .001 |
| 4. Exh | 14.40 | 3.53 | 12.97 | 4.27 | — | |
| 5. Aut | 14.34 | 4.45 | 12.57 | 4.02 | 5.27 | .001 |
| 6. Aff | 15.00 | 4.32 | 12.55 | 4.16 | 7.08 | .001 |
| 7. Int | 16.12 | 5.23 | 15.15 | 4.61 | 2.35 | .02 |
| 8. Suc | 10.74 | 4.70 | 10.88 | 4.50 | — | |
| 9. Dom | 17.44 | 4.88 | 15.55 | 4.64 | 4.50 | .001 |
| 10. Aba | 12.24 | 4.93 | 15.54 | 5.14 | 6.87 | .001 |
| 11. Nur | 14.04 | 4.80 | 15.23 | 4.32 | 3.00 | .01 |
| 12. Chg | 15.51 | 4.74 | 14.81 | 4.23 | — | |
| 13. End | 12.66 | 5.30 | 16.23 | 5.32 | 7.73 | .001 |
| 14. Het | 17.65 | 5.48 | 11.22 | 7.70 | 9.68 | .001 |
| 15. Agg | 12.79 | 4.59 | 14.62 | 4.41 | 4.57 | .001 |
| Con | 11.53 | 1.88 | 11.83* | 1.68 | | |
| N | 760 | | 147 | | | |

* Mean consistency score is not comparable, for only *S*s who obtained consistency scores above nine were taken for this study.

American men and Indian men. These are: Ach, Exh, Suc, and Chg. Indian men differ significantly and favourably from American men in Def, Ord, Aba, Nur, End and Agg, while American men differ significantly and favourably from Indian men in Aut, Aff, Int, and Het.

## D. Discussion

In a similar study on a normal undergraduate sample of the University of Miami, Satz and Allen (4) "speculate that the differences may inhere in the standardization procedure followed by Edwards." This sounds reasonable as there is question of differences between *S*s of the same country. In the present study, however, two populations of two great countries differing widely in culture and traditions are compared. Using Kluckhohn and Mowrer's terms (3), the present writer attributes obtained similarities in the masculinity and femininity patterns of American and Indian College students

to the "universal component" of personality make-up, and obtained differences to the "communal component" of personality.

Thus, tendencies such as Aff, Int, Suc, Aba, Nur, and Chg, are found in the femininity pattern of both Indian women and American women, for they seem to constitute a universal component of femininity. And tendencies such as Ach, Dom, Het, and Agg, are found in the masculinity pattern of both Indian men and American men, for they seem to constitute a universal component of masculinity.

On the other hand, the communal component appears in American women in these tendencies: Exh, Aff, Dom, and Het. While in Indian women the communal component shows up in Ach, Ord, Aba, Nur, and Agg. In the former, we find a pattern of freedom which fits into the American Way of Life; in the latter, we find a pattern of restraint which fits into the Indian Way of Life. It could be asked, how does anger fit into a pattern of restraint? Observation of Indian behaviour offers this reply: one can repress the outer manifestation of anger though resentment may sink deep. In this fashion, anger can fit into a pattern of restraint.

In American men, the communal component shows up in these tendencies: Exh, Aut, Aff, Int, Dom, and Het. While in Indian men the communal component appears in Def, Ord, Aba, Nur, End, and Agg. It is remarkable that the same pattern of freedom, viz., Exh, Aut, Aff, Dom, and Het, are found both in American men and women. And the same pattern of restraint, viz., Def, Ord, Aba, Nur, End, and Agg, are found both in Indian men and women.

These results show that the "universal component" of personality is the same in the patterns of both American masculinity-femininity and Indian masculinity-femininity. They too show that both American men and women share the same "communal component," and so do Indian men and women.

These communal differences seem to be largely due to widely different cultures. This becomes evident by analyzing the content of Edwards' definitions of the fifteen personality tendencies. Thus, for instance, Edwards defines Heterosexuality in terms of the following operations: "to go out with members of the opposite sex, to kiss those of the opposite sex, etc." These operations are nothing else but a reflection of American culture and of the American Way of Life. But they are certainly not in accordance with Indian culture and traditions. In most non-Christian communities of India, parents and their children do not express affection by kissing each other, but they do in other accepted ways. Further, it is not the custom for many Indian young people to go out with members of the opposite sex. In many families children are not free to talk or read about sex.

In a recent survey conducted by the present writer (2) on sex education for 695 Indian College students, 376 men and 319 women, within the age range 14 years to 25 years, it was found that 88 per cent of the men, and 58 per cent of the women, had received no sex instructions from their parents.

These are facts pointing to wide differences in the cultures of the two populations under study. Edwards' definitions of the fifteen personality tendencies are imbued with American culture, and they do not fully meet the Indian conception of life and the way Indians develop their personality. And this is the reason for obtained differences on the EPPS between the ENP and the XCP.

## E. Summary and Conclusions

Two hundred and eighty-eight male and female Indian College students were administered the EPPS. Using raw scores, means and standard deviations were computed for each of the fifteen personality tendencies for a comparative study with the ENP.

The results of this study show some similarities and wide differences between the two populations. These differences are explained in terms of differences in culture.

The present study stresses the need of a redefinition[3] of the EPPS' 15 personality tendencies in the light of Indian culture for a more effective assessment of personality in Indian subjects. In spite of the differences pointed out above, the service that the EPPS has rendered to Indian College students at this Counselling Centre constitutes a powerful motive for working towards the achievement of the project hinted at above.

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[3] The Psychological Corporation of New York has kindly granted permission to the present writer to adapt the EPPS to Indian conditions.

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# A RHODESIAN WHITE MINORITY UNDER THREAT*

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## A. Background of the Study

The Copperbelt community is largely concentrated in a half-dozen modern industrial centres, dotted over an isolated narrow strip of country, barely eighty miles long, southwest of the Congo Pedicle (Katanga Province). Kitwe-Nkana and Mufulira are among the larger centres with white populations of approximately 10,000 and 7,000 respectively. The urban black population is between six and ten times as large.

The Copperbelt communities are young. Although mineral deposits were discovered early in the century, it was not until the late 'twenties that large scale exploitation began. Since then, industrial development and population growth have been spectacular, if uneven. The entire economy of the area, if not of the Territory, depends on the mining industry and the speculative fortunes of copper as a world commodity. Extremely rich ore deposits and comparatively cheap (black) bulk labour have sustained profit-making even during times of market recession.

The urban communities have a double dichotomy. Due to their historical development, each centre is divided into a mining and non-mining section which, until very recently, were residentially fully separated; and in both these sections the white and black groups are again separated.

The black urban population, still in the early stages of urbanization and westernization, has made phenomenal progress in the fields of modern labour and political organization. African trade unions were recognized in 1949 and very soon became a well-disciplined, powerful and successful bargaining force. Its leadership core also played a vital role in the shaping and realization of nationalist political ambition (2).

This rapid African advance caught all but a fraction of the white minorities unprepared. The reasons are not far to seek. White Copperbelt society is self-centred, affluent[1] and highly materialistic. It is also overwhelmingly ex-patriate. Probably some sixty per cent derives from the Union of South

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[1] During the year of peak prosperity (1956), average white cash income (apart from substantial other benefits) was close to £2,300 in the copper mining industry.

Africa, about thirty per cent from the United Kingdom, and the remainder from other overseas territories and the Rhodesias. For this reason, and because industry relied for the mass of its unskilled labour upon recruiting from an underdeveloped black population, the conservative South African attitude pattern with regard to life, work and race, was almost inevitably transplanted to the Copperbelt, and, until very recently, never seriously challenged (3).

Attracted by the prospect of high earnings in skilled and semi-skilled jobs, favourable service conditions and excellent recreational facilities, the vast majority of whites came for periods ranging from a few to twenty years, but without the intention of permanent settlement in this geographically isolated locality. During this sojourn (relieved every few years by a lavish holiday at the coast or sometimes overseas) even the semi-skilled among them soon developed the habit of earning enough in a rather leisurely manner to take their leisure at a pretty fast pace. Not unnaturally, white adults as well as adolescents are preoccupied with the pursuit and protection of the "European way of life" at a high level of material comfort and social conviviality.

## B. Methods and Definitions

### 1. *The Essays*

During the latter half of 1959 a social psychological investigation was made into factors influencing the stability of the white mining communities on the Northern Rhodesian Copperbelt.[2] In the course of this study one of the present authors organized an essay contest for high school scholars to ascertain white teenage attitudes towards present life and future prospects on the Copperbelt. The title of the essay was *"Copperbelt 1974."* A brief explanatory note to all competitors merely (*a*) drew attention to the rapidly developing political, economic and social scene in Africa; (*b*) requested competitors to describe their attitudes both to current conditions of life and to the local future as they saw it some fourteen years hence; and (*c*) to indicate whether they expected their personal future to lie in the Copperbelt or elsewhere. No further guidance was given. Through the kind offices of the school principals concerned, all pupils in the higher forms of three high schools at Kitwe and Mufulira (143 pupils in all) simultaneously wrote the essay in February, 1960. All essays were sent to us for analysis.

[2] The study was conducted by the National Institute for Personnel Research in association with the Institute for Social Research, University of Natal and commissioned by the Northern Rhodesian Chamber of Mines. The Report, in two parts, was issued in November, 1960, but is still a confidential document. (1) Its confidential nature unfortunately prevents us from presenting our present adolescent material in close comparison with the results of the adult study, as we should have liked to have done.

In spite of the fairly loose frame of reference most essays revealed personal attitudes on black-white relations in social, occupational, and political fields of interest, which were amenable to quantification and grading on simple scales, under such headings as: general mood (pessimism-optimism) of essay, attachment to the locality, attitude to present living conditions, expectations and reactions to change, prospect of leaving or staying on the Copperbelt.

The three authors assessed all essays independently on the variables just mentioned. Five-point scales were first used, but later reduced (as the authors originally expected they would have to be reduced) to three-point scales to increase agreement. As even the three-point scales left considerable disagreement, agreement was finally redefined, and required at least two of the three judges to be in agreement on the same scale-point, and the third on the adjacent scale-point. One of the authors consistently tended to judge the *S*s as more liberal than did the other two. After this coding procedure, agreement between the three judges ranged from 64 per cent to 92 per cent depending on the variable coded. The essay sample of 143 high school students is very similar to the questionnaire sample described below, and the return rate is 100 per cent. Both samples consist largely of white English-speaking, high school students in their teens, who are nearly equally divided on sex, and whose fathers are mostly of skilled-manual occupations. The results of the essay responses are contained in the third part of this paper.

The essays were written in February 1960, at a time of comparative quiet on the local industrial front, but of impending major changes politically and socially, in Northern Rhodesia in particular, and the Central African Federation and the rest of Central Africa generally. The Monckton Commission on the constitutional and economic future of the Federation was touring the country on behalf of the British government and evoked keen speculation in the daily press and private conversation; legislation was being prepared for the abolition of the colour bar in many public services and amenities in Northern Rhodesia; and the Belgian Congo, barely one hour by road from the Copperbelt, was about to be given its independence (July, 1960). The rare opportunity of conducting a follow-up study which might reflect possible changes in attitude of the same sample group shortly after these changes had been effected, was too good to be lost.

## 2. The Questionnaires

We decided this time to cast our inquiry in questionnaire form because it offered some distinct advantages: (*a*) it was statistically more satisfactory; (*b*) some questions could be framed so as to clarify certain attitudes not

clearly revealed by a number of essayists; and (*c*) it would provide a comparison with a similar study undertaken by one of us among university students in the Union of South Africa (4).

The questionnaires were submitted to the same high school classes which had previously written the essays, and were completed simultaneously by all pupils sitting as a captive audience in their classrooms. As in the case of the essay sample, the return rate is 100 per cent. The size of the sample is again 143, but only 115 of these wrote essays. Twenty-eight old students left the school, and 28 new ones arrived between the times the essays and the questionnaires were distributed. Seventy (49 per cent) of the 143 students are male. Fifty-six per cent of the *S*s' fathers are in skilled manual occupations. Age ranges from 13 to 19 years with a mode of 16. Only 29 per cent of the sample are born in Northern Rhodesia. Forty-five per cent are born in South Africa, 18 per cent in Britain and the remaining eight per cent in other countries (mostly European ones). Eighty-six per cent speak English at home, eight per cent Afrikaans and the other six per cent a variety of other European languages.

The questionnaires were completed in September, 1960. This was about two months after the Belgian Congo had gained independence, and about a fortnight after the colour bar in public amenities such as hotels, restaurants, cinemas, etc., had been statutorily abolished. The immediate effect of the latter measure (unwisely timed as it coincided with end-of-month pay day) was, on the Copperbelt, an influx of black customers into some public amenities hitherto exclusively the preserves of whites. There were some minor eruptions of physical violence, which stopped after a few days, when some ex-white amenities were left to almost exclusively black patronage. Some hotel lounges enjoyed a multi-racial patronage without much inter-racial social mixing. The numerous and generously appointed private clubs, however, remained exclusively white. The events in the Belgian Congo, after independence, are too well known to require restatement. It should be mentioned, however, that a considerable volume of south-bound white refugees passed through the Copperbelt and were given temporary shelter and assistance by public and volunteer organizations, as well as much publicity.

### 3. *Definitions of Basic Terms*

The basic dimensions used in the analysis of the essay material have been arbitrarily defined by the authors when rating the essays. "Acceptance of change" is conceived as a continuum going from conservative (accepting no or little change) to liberal (accepting much change). The *S*s are also rated as

to how much change they anticipate (yielding a continuum of "expectation of change"), how brightly they view the future of their country (optimism-pessimism continuum), and how much emotional attachment they display towards the Copperbelt. By permanence is meant whether a subject is rated as likely to stay on the Copperbelt or to leave.

The same dimensions are used in analysing the questionnaire material, but here the terms are operationally defined in terms of replies to specific questions.

The fourth part of this paper gives the results of the questionnaire study; it is followed by a final section which attempts to assess the shift in attitudes by comparing, where possible, the questionnaire responses with the essay contents.

## C. The Essays

In this section, we shall first attempt to treat qualitatively the major themes as they occur in the essays, and then show quantitatively how these themes are related to one another.

### 1. *Qualitative treatment*

By far the most salient theme of the essays is that of black-white relations. The reference to "rapid development" in the instructions probably directed the *S*s' thinking to current racial issues, but no specific reference was made to race relations. All but two or three of the 143 *S*s mention racial problems, and all but half-a-dozen do so prominently. The future of the Copperbelt is viewed almost exclusively in these terms. The themes of growth, material prosperity and technological improvement come only as poor seconds, and figure prominently in only two or three papers.

On the whole, people like their present life on the Copperbelt and are emotionally attached to it. Only three persons express dislike of the Copperbelt, and as a more enthusiastic *S* puts it "During this immediate period the Copperbelt is an almost perfect paradise." This "paradise" in which the white man enjoys a privileged position in every conceivable respect is, however, threatened by drastic impending changes. The vast majority expect changes in the racial balance of power, wealth and privileges. Only eight persons expect little or no change in this respect. As one advocate of reaction puts it: ". . . in 1974 the Copperbelt will be a better place than it is today as the Africans will have been put back in their places." The vast majority expect considerable changes in favour of the Africans, ranging from having the Africans in full control to the exclusion of whites, to various degrees of

"partnership." ("Multi-racialism will be fully accepted," "there will be no difference between the whites and blacks." "The Copperbelt in 1974 will be entirely governed and completely run by the African," "There will be a place for both black and white." "In the future, the Africans will be the dominant race, but it is obvious that the educated Europeans will still be above the educated Africans," "There will be very few white people in Northern Rhodesia"). A few respondents express extreme pessimism: "I think that before 1974 there will be a massacre because the Africans will want to be boss," "There is almost bound to be bloodshed," "Unless help comes soon all Africa will be a huge battlefield with the few white people being massacred."

The reaction to this expected change in favour of the Africans is gennerally negative and conservative, but opinions cover a fairly wide range as the following quotations show: "If we are willing to work hand in hand with the Africans everything is going to be alright." "I do believe in African advancement but it must not be thrust on the Africans as they can only understand and learn slowly," "I would be able to work with the Africans but could never mix socially with them," "The Copperbelt certainly has a black future ahead of it," "I am very strongly against the idea of removing the colour-bar."

The grounds on which African advancement is opposed can be grouped under two main headings: firstly the refusal to relinquish a privileged position and to accept Africans as equals, and secondly the alleged incompetence and inferiority of the Africans. The privileged position of Europeans in Africa is taken for granted by most of our subjects who reject and fear the prospect of Africans associating with them as equals: "Many people will not relish the idea of working side by side with Africans, especially I," "I naturally as a colonial, find it more difficult to accept the African in a high position, than an immigrant would," "We want to feel . . . that there are jobs waiting for us alone, jobs that will not be given to the first unemployed native that comes along," "The Africans have not anywhere near as much respect for the Europeans as they used to have a few years ago," "The native looked upon the white man as some sort of a lord," "I would rather see my children *dead,* than see them have mixed marriages," "If . . . the opposite side starts dominating, I think it would be better to leave," "With these natives being the rulers and bosses . . . I think I will be the first one to move out of this country," "If the African did live like an ordinary next door neighbour, I would leave the Copperbelt."

The view of a small minority is more of a compromise, however; "It seems to me that there is no future for the white man here . . . unless he

is prepared to live together with the black man in equal social and economic terms," "We must not think a white skin will get us through anymore, because it won't, it's brains what counts now, not skin."

The desire to retain the upper hand is rationalized by a highly disparaging view of the Africans: "The majority of Africans do not bath regularly," "(the African) will not raise his standard of living as high as the Europeans mainly because of his barbaric instincts and because he has practically no sense of hygiene and cleanliness," "They consider that they can and have learnt in fifty years what we learned in two thousand years," "He takes anything and everything from the European, except wisdom," "The majority of the Africans are incapable of governing," "The African certainly would not be able to rule himself," "It is the opinion of most Northern Rhodesian Europeans that the African is not yet fit to be politically free," "Even the learned Africans still believe some old superstition or fallacy," "Black nationalism has raised its head almost fifty to a 100 years too soon." A few people blame outside meddlers for the Africans getting "out of place": "As at present there is too much interference from people who have not enough knowledge of the African."

Given our *S*s' expectation of change and resistance to it, one would expect a great degree of pessimism about the future for Europeans on the Copperbelt. In fact, extreme pessimists predicting a massacre of whites or complete chaos in an African-dominated state are in the minority. Conversely, only a few *S*s predict a continuation of the present "almost perfect paradise." The keynote of most essays is rather a vague feeling of threat and uncertainty combined with a determination to enjoy the present situation for as long as it lasts. As some of the earlier quotations show, many people are determined to leave Rhodesia when the Africans gain control. Others adopt a wait-and-see attitude: "With the African advancement and the continuous strikes on the Copperbelt one feels that one does not want to sink one's roots here in the Federation," "I intend to stay in the Copperbelt for as long as possible." A few are determined to stay, either because they are prepared to accept African advancement or because they are willing to defend white supremacy by force. "Those that really love the Copperbelt as I do, will fight for it if they have to," "The average teenager . . . must have the guts to fight and go through what is to come."

### 2. *Quantitative treatment*

Let us now turn to the quantitative relationships between optimism, permanence, expectation of change and conservatism, and the objective factors of sex, length of residence in the Copperbelt, and country of origin.

As predicted, girls tend to be more conservative than boys, but the difference is not significant. Nearly two thirds of the girls are rated as conservative compared to half of the boys. Conversely, nearly one boy out of five is rated as liberal as opposed to one girl out of 15. Sex is not significantly related to any other variable.

Optimism about future life on the Copperbelt is strongly related to willingness to stay ($p < .001$)[3] to expecting little or no change ($p < .001$), and to "liberalism," *i.e.*, willingness to accept at least some changes ($p < .001$). Ninety-one per cent of the pessimists want to leave the Copperbelt compared with only five per cent of the others ($N = 94$). Eighty-seven per cent of the pessimists expect considerable change, as opposed to only 47 per cent of the others ($N = 119$). Ninety-two per cent of the pessimists are conservative, compared with only 39 per cent of the others ($N = 115$).

Acceptance of change is significantly related to expectation of change ($p < .05$) and to permanence of stay on the Copperbelt ($p < .001$). Though the vast majority expect change, the eight who do not are all conservatives. Conversely, 13 of the 15 liberals expect much change in contrast to only 51 of the 92 others. Conservatives want to leave to a much greater extent than the others. Twenty-nine of the 53 conservatives show evidence of wanting to leave as opposed to only five of the 35 others.

In view of the above findings which relate expectation and acceptance of change to optimism and permanent settlement, we formulated the following hypothesis: combined, the first two variables determine each of the last two to a greater extent than they do separately. In other words, the conservatives expecting no change and the liberals expecting change will tend to be optimistic and to want to stay, since in each group opinions and expectations tend to coincide. Conversely, conservatives expecting change would be pessimists and want to leave, since they foresee a situation which they are not prepared to accept. (The fourth possible class, that of liberals expecting no change, is not represented in the sample). As shown in Tables 1 and 2, the hypothesis is strongly supported.

When expectation of change is further broken down, it is found that political change is mentioned most often (by 103 *S*s), followed by change in employment with Africans displacing Europeans in jobs (81), followed by general social integration in cinemas, cafes, swimming baths, etc. (59), followed by school integration and African rise in education (41). Miscegena-

[3] Unless otherwise indicated, all significance tests are $\chi^2$ with one degree of freedom.

TABLE 1
OPTIMISM, CONSERVATISM AND EXPECTATION OF CHANGE (FREQUENCIES)

| | Optimists | Intermediate | Pessimists | Total |
|---|---|---|---|---|
| Liberals expecting change and conservatives expecting no change | 22 | 11 | 4 | 37 |
| Liberals and conservatives expecting intermediate change | 13 | 14 | 4 | 31 |
| Conservatives expecting change | 0 | 4 | 30 | 34 |
| Total | 35 | 29 | 38 | 102 |

TABLE 2
PERMANENCE, CONSERVATISM AND EXPECTATION OF CHANGE (FREQUENCIES)

| | Will stay | Uncertain | Will leave | Total |
|---|---|---|---|---|
| Liberals expecting change and conservatives expecting no change | 15 | 3 | 3 | 24 |
| Liberals and conservatives expecting intermediate change | 14 | 9 | 2 | 25 |
| Conservatives expecting change | 5 | 1 | 24 | 30 |
| Total | 34 | 13 | 32 | 79 |

tion is expected by only five persons. Of all these aspects of change, changes in employment encounter by far the least resistance. Only 15 of the 46 *Ss* who express an opinion are opposed to change in the job structure, compared to 50 out of 58 in social association. Of the 13 people who express an opinion on miscegenation, 11 are strongly opposed to it. It may be argued that in the occupational field, the whites due to their higher level of education still feel protected from competition from the mass of the Africans. Both the transfer of political power to Africans and the integration of public facilities, on the other hand, were seen as a very direct threat at the time the essays were written. Furthermore, the field of occupational contacts involves a low degree of intimacy. As one girl puts it: "I would be able to work with the Africans but could never mix socially with them." It is also interesting to note that, although miscegenation and social integration tend to be rejected more strongly than political concessions, the political aspect of change is mentioned by far the most frequently.

In all three major categories of change (political, employment and social), boys tend to be more liberal than girls, thereby confirming the sex difference in general conservatism. The difference is not significant, however. Country of origin is also a determinant of acceptance of change. As expected, subjects of South African origin are significantly more conservative than all the others

($p < .05$), and people from overseas are more liberal than both Rhodesians and South Africans, though not significantly so. Contrary to prediction, Rhodesian-born *Ss* are not more likely to stay on the Copperbelt than foreign-born subjects. Country of origin is likewise not significantly related to optimism or expectation of change. There is a slight tendency for recent immigrants to Northern Rhodesia to expect more change, to be more liberal, and to be more willing to leave the country than for the older residents, but none of these differences is statistically significant.

## D. The Questionnaire

The main purpose of the questionnaire, as with the essay contest, was to gauge the stability of the next working generation: how ready these whites were to remain on the Copperbelt; and how willing they were to accept the changes so imminent in their country. The 143 adolescents who filled in the questionnaire would soon become wage-earners. As a comparatively highly trained and culturally privileged group, their outlook on the future would add to the general understanding of how upper layers of a hierarchy accommodate themselves to the threatened collapse of that hierarchy, as well as suggest specific answers to questions about the ease of transition and the conservation of human resources.

### 1. *Permanence*

To the question, "After completing your education and training, what do you think you will do?", half (72) the adolescents cautiously chose the reply, "Stay for a while and see what happens." Only 21 were inclined to "settle permanently on the Copperbelt," while 50 thought they would "leave the Copperbelt and settle elsewhere" (Table 3). The small proportion who think they will stand fast hardly encourages a picture of permanence; but at least the wait-and-see attitude of the modal group keeps open the prospect of stabilizing the respondents before they are irretrievably scattered.

*a. Home language.* One of the chief aims of the questionnaire was to find out how permanence (gauged by the question above) was related to other factors. It seemed in fact to have some connection with relatively objective socio-economic and demographic variables. Home language was bound to it (Table 3a): 8 of the 11 Afrikaans-speakers desired to leave as against only 42 of the remaining 132 respondents (Fisher exact test; $p < .02$). Because they have not so far committed themselves to the Copperbelt as to adopt the language spoken by most of the whites there, the Afrikaners probably yield more readily than the others to pressures urging departure. Other non-English

TABLE 3
PERMANENCE AND RELATED FACTORS

| | *Permanence* "After completing your education and training, what do you think you will do?" | | | |
|---|---|---|---|---|
| | Settle permanently on the Copperbelt | Stay for a while and see what happens | Leave the Copperbelt and settle elsewhere | Total |
| (a) *Home Language:* | | | | |
| English | 18 | 65 | 40 | 123 |
| Afrikaans | 1 | 2 | 8 | 11 |
| Both English and Afrikaans | 1 | 2 | 1 | 4 |
| Other | 1 | 3 | 1 | 5 |
| (b) *Educational Status:* | | | | |
| In Form III | 3 | 15 | 23 | 41 |
| In Form IV | 9 | 36 | 20 | 65 |
| In Form V | 3 | 8 | 2 | 13 |
| In Form VI | 6 | 13 | 5 | 24 |
| (c) *Age on last birthday:* | | | | |
| 13 | 0 | 0 | 1 | 1 |
| 14 | 0 | 2 | 3 | 5 |
| 15 | 1 | 9 | 11 | 21 |
| 16 | 8 | 28 | 25 | 61 |
| 17 | 8 | 26 | 7 | 41 |
| 18 | 4 | 6 | 3 | 13 |
| 19 | 0 | 1 | 0 | 1 |

TABLE 3 (*continued*)

| | Settle permanently on the Copperbelt | Stay for a while and see what happens | Leave the Copperbelt and settle elsewhere | Total |
|---|---|---|---|---|
| (d) *Attachment to Copperbelt:* "In general, what is your reaction to life on the Copperbelt?" | | | | |
| I very much like life on the C. | 15 | 18 | 9 | 42 |
| I like life on the Copperbelt. | 1 | 24 | 12 | 37 |
| There are some things I like and dislike about living on the Copperbelt. | 5 | 30 | 22 | 57 |
| I dislike life on the Copperbelt. | 0 | 0 | 5 | 5 |
| I very much dislike life on the C. | 0 | 0 | 2 | 2 |
| (e) *Home country:* "What country do you consider as your home?" | | | | |
| Northern Rhodesia | 19 | 48 | 22 | 89 |
| South Africa | 1 | 12 | 13 | 26 |
| Southern Rhodesia | 0 | 4 | 5 | 9 |
| United Kingdom | 0 | 4 | 7 | 11 |
| Other (all outside Africa) | 1 | 2 | 2 | 5 |
| Uncertain or No Reply | 0 | 2 | 1 | 3 |
| (f) *Destination:* "If you were to leave the Copperbelt where would you like to go?" | | | | |
| South Africa | 5 | 28 | 14 | 47 |
| Australia | 4 | 9 | 3 | 16 |
| Southern Rhodesia | 1 | 3 | 10 | 14 |
| United Kingdom | 1 | 5 | 6 | 12 |
| Canada | 2 | 4 | 3 | 9 |
| United States | 2 | 1 | 6 | 9 |
| Other | 1 | 6 | 8 | 15 |
| No Reply | 5 | 16 | 0 | 21 |

TABLE 3 (*continued*)

| | Settle permanently on the Copperbelt | Stay for a while and see what happens | Leave the Copperbelt and settle elsewhere | Total |
|---|---|---|---|---|
| (g) *Political change expected:* "Looking at the political situation in Northern Rhodesia, what do you think will happen within 15 years from now?" | | | | |
| A completely white government. | 0 | 1 | 1 | 2 |
| Some partnership between whites and Africans but under white control. | 10 | 22 | 12 | 44 |
| Complete and equal partnership between whites and Africans. | 9 | 35 | 17 | 61 |
| African government to the exclusion of whites. | 2 | 14 | 20 | 36 |
| (h) *Colour bar change expected:* "Looking at the colour bar in public places like cinemas and restaurants, what do you think will happen within the next 15 years?" | | | | |
| The colour bar will be maintained. | 3 | 13 | 2 | 18 |
| The colour bar will be set aside but only a few educated Africans will enter these places. | 10 | 25 | 20 | 55 |
| Africans and Europeans will mix on a large scale. | 6 | 27 | 25 | 58 |
| No Reply | 2 | 7 | 3 | 12 |
| (i) *Religiosity:* "How religious do you consider yourself?" | | | | |
| Very religious | 3 | 2 | 1 | 6 |
| Moderately religious | 10 | 41 | 30 | 81 |
| Slightly religious | 6 | 27 | 18 | 51 |
| Not religious at all | 2 | 2 | 1 | 5 |
| Total | 21 | 72 | 50 | 143 |

language groups are minute and do not show the same strong tendency to leave as the Afrikaners.

*b. Education and age.* The level of education reached by the adolescents is another objective factor that bears on their prospective permanence (Table 3b). The proportion of leavers was 23 out of 41 amongst the third-formers, but only 27 out of 102 amongst those in higher forms ($p < .01$). This finding, however, may merely be a reflection of age, since older pupils are to be found mainly in the higher forms. Indeed, as Table 3c shows, of the 88 *Ss* aged 16 or younger, 40 choose to leave while only 10 of the 55 older *Ss* want to go ($p < .01$). Nevertheless, the age factor may not entirely dispose of the link between educational level and permanence. This, at any rate, is what holding the age factor constant suggests. Amongst the 16-year-olds (who make up the largest age-group), 10 of the 17 third-formers want to leave as against only 14 of the 44 in higher forms ($p < .10$). There is thus a tendency, albeit not quite significant, for the higher levels of education to stem an exodus from the Copperbelt. Uninformed and unenlightened attitudes, which one would expect to find concentrated at lower educational strata, might accordingly bear some responsibility for urging a departure.

*c. Other objective factors.* A number of other relatively objective factors are not significantly linked to permanence. They are sex, religious affiliation, length of residence on the Copperbelt, paternal occupation and country of birth. However, as anticipated, there are several subjective factors bound up with permanence.

*d. Attachment to the area.* Not surprisingly, those who choose to stay permanently tend also to say they like life on the Copperbelt very much (Table 3d). Such extreme liking is expressed by 15 of the 21 stayers but by only 27 of the remaining 122 respondents ($p < .001$). Again, the permanent stayers, as one would expect, have a comparatively strong inclination to name Northern Rhodesia as their home (Table 3e). This selection is made by nearly all (19) of the stayers, but by less than two-thirds (70) of the remainder ($p < .02$). It is worth noting, in determining gross features of white stability, that rather less than two-thirds of the adolescents look upon Northern Rhodesia as their home, and that less than one-third admit to liking life on the Copperbelt very much.

*e. Destination on departure.* Although there may not be complete attachment to the Copperbelt itself, the way of life it represents nevertheless seems congenial. Most of the adolescents (83 per cent) indicate that if they were to leave the Copperbelt, they would like to go to one of the Commonwealth countries. Table 3f shows that, as a destination, Southern Rhodesia appeals

more to the leavers than to the others: it is chosen by one-fifth of the leavers but by only one-eighteenth of the others specifying a destination ($p < .05$). Perhaps qualms about leaving are assuaged by choosing a closely kindred and neighbouring territory, so that departure does not appear too marked an abandonment. Perhaps, again, those who decide to go must give more realistic consideration to a destination than those who hesitate over departure or reject it; so that practical concerns like familiarity with living conditions and the expenses of moving bulk large and suggest the neighbouring territory.

*f. Change expected.* The amount of change the future is expected to bring should have some bearing on whether one decides to stay or not. Indeed, as Table 3g shows, leavers made up most (20) of those expecting African government to the exclusion of whites in Northern Rhodesia within 15 years (36), whereas they constituted only a small part (30) of the 107 who expected less drastic changes in the political situation ($p < .01$). Similarly, there were few leavers (two out of 18) amongst those who, while the colour bar was actually in the process of being lifted, doggedly held that it would be maintained in public places like cinemas and restaurants during the next 15 years (Table 3h). A greater proportion of leavers (45 out of 113) emerged from the ranks of those who foresaw a lifting of the colour bar ($p < .05$). Neither expectations of change in the job situation nor of general changes were significantly linked to permanence. Possibly the adolescents expected that with their excellent training they could hold their own, even if Africans and Europeans competed equally for jobs (which 53 per cent thought would happen). General change, although not directly linked to permanence, was bound up with it in a more complicated way to be discussed below.

*g. Concern and Pessimism.* Whatever the future might seem to hold in store, anxiety or gloom in the face of it could well discourage permanent settlement. In fact, there was a tendency of borderline significance ($\chi^2 = 3.81$) for concern about the future to go with permanence. About half (10 out of 21) of the permanent settlers said they were concerned about the future of Northern Rhodesia "all the time," while only a quarter (29 out of 120) of the remainder were as perturbed. This is just the opposite of what the authors expected, although it is easy enough to adduce *post hoc* explanations on such lines as: Those who stay behind are committed to Northern Rhodesia and its future is of more concern to them than to the uncommitted, or: The stayers have come down on the side of staying but the arguments for the other side still make them uneasy and so they worry more about the future than the others who do not blame themselves for making a dangerous choice. There

is no link, direct or indirect, between permanence and degree of pessimism about the future of Northern Rhodesia, pessimism being gauged by the question, "How do you feel about the future of Northern Rhodesia at present? . . . Very optimistic . . . Optimistic . . . Midway between optimistic and pessimistic . . . Pessimistic . . . Very pessimistic." Why this finding differs so markedly from the essay contest results will be discussed below.

*h. Religiosity.* There was one more significant finding involving permanence. Extremes of religiosity seemed more frequent amongst the stayers than the others (Table 3i). About a quarter of the permanent stayers (five out of 21) considered themselves to be "very religious" or "not religious at all," while only one-twentieth (six out of 122) of the remainder showed such extremes of religious feeling (Fisher exact test; $p < .05$). This is a difficult finding to interpret. Of course it is possible that religious extremists might make extreme decisions, either declaring that they will go or that they will stay; but it is clear from the replies that there are hardly any extremists (two out of 50) amongst the leavers. A rather cynical gloss on the finding is that the problems of permanent residence are easier to accept if one is fortified by strong faith or if one is strong enough in the face of difficulty to do without any faith at all. The religious fainthearts and laodiceans need to lean on their faith but it is not strong enough to support a decision to stay.

*i. Conclusions.* On the whole, the various findings show that a decision about permanence is far from being a straightforward and uncomplicated affair. Whether the individual is aware of it or not, being mature in years and perhaps educational level and being assimilated into the life of the Copperbelt favour a decision to settle. The passage of time alone can increase maturity and assimilation, so that in time to come those who are now adolescents may be more disposed to remain. Again, deciding to stay is tied up with several attitudes and expectations which may be the factors which have to be worked on, rather than the decision itself, if permanence is to be manipulated.

### 2. *Acceptance of Change*

Willingness to accept change, the other main issue catered for by the questionnaire, was elicited by the question: "At present, which of the following are you inclined to accept in Northern Rhodesia?" (Table 4). The respondents (139 answered the question) had the choice between five degrees of change: complete (chosen by nine), a great amount (31), a fair amount (53), little (28), or no change (18): for convenience, those choosing complete or great change will be termed "liberals," while those preferring little

TABLE 4
ACCEPTANCE OF CHANGE AND CERTAIN RELATED FACTORS

| | *Acceptance of Change* "At present, which of the following are you inclined to accept in Northern Rhodesia?" | | | | | | |
|---|---|---|---|---|---|---|---|
| | Complete change | A great amount of change | A fair amount of change | Little change | No change | No Reply | Total |
| (a) *Home country:* "Which country do you consider as your home?" | | | | | | | |
| Northern Rhodesia | 5 | 20 | 42 | 12 | 8 | 2 | 89 |
| South Africa | 2 | 4 | 6 | 10 | 4 | 0 | 26 |
| United Kingdom | 0 | 4 | 2 | 1 | 3 | 1 | 11 |
| Southern Rhodesia | 1 | 1 | 1 | 4 | 1 | 1 | 9 |
| Other (all outside Africa) | 0 | 2 | 1 | 0 | 2 | 0 | 5 |
| Uncertain or no reply | 1 | 0 | 1 | 1 | 0 | 0 | 3 |
| (b) *Agreement with schoolmates:* "How closely do your ideas on the future of Northern Rhodesia agree with the ideas of your schoolmates?" | | | | | | | |
| Completely | 2 | 5 | 10 | 10 | 12 | 0 | 39 |
| Closely | 2 | 13 | 18 | 4 | 4 | 1 | 42 |
| To a moderate degree | 4 | 10 | 21 | 11 | 2 | 2 | 50 |
| Very little | 1 | 3 | 4 | 1 | 0 | 1 | 10 |
| Not at all | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| (c) *Education:* | | | | | | | |
| In Form III | 6 | 5 | 6 | 15 | 7 | 1 | 41 |
| In Form IV | 2 | 17 | 27 | 10 | 8 | 2 | 65 |
| In Form V | 0 | 3 | 6 | 2 | 2 | 0 | 13 |
| In Form VI | 1 | 6 | 14 | 1 | 1 | 1 | 24 |
| Total | 9 | 31 | 53 | 28 | 18 | 4 | 143 |

or no change will be called "conservatives." Evidently the modal response is an in-between one, there being otherwise a leaning towards the conservative side. As one would expect, this general non-liberal attitude is accompanied by non-liberal attitudes towards changes in specific situations: the colour bar, the political and the job situation ($p$s are respectively, $< .02$, $< .001$, $< .001$). On the other hand, there is no significant relationship between the *S*s' willingness to accept general change and their expectation that there will be general change in the next 15 years. In fact, whatever their degrees of conservatism, all but two out of 139 expect that there will be at least a fair amount of change; and 82 per cent foresee great or complete change.

*a. Permanence.* Although there is no direct and significant relationship between conservatism and permanence, such a relationship does appear amongst those who expect great or complete general change. The proportion of leavers is greater amongst conservatives and liberals expecting much change (29 out of 67) than amongst the in-betweens who expect much change (10 out of 48)—these in-betweens being subjects who will accept "a fair amount" of change ($p < .05$). Conservatives and liberals have much the same proportion of leavers—roughly two-fifths—whereas the essays showed that, given an expectation of considerable change, conservatives had more leavers. One can understand why the in-betweens should be less disposed to pack their bags than the conservatives, since the conservatives expect great change and will not tolerate it, while the in-betweens are receptive towards a fair amount of the great change they predict. The difficulty comes in understanding why liberals are amongst those more likely to go, since the liberals welcome the great change they expect to occur.

The explanation for this may lie in a recent swing towards liberalism. Most of the liberals (22 out of 40) were, on the evidence of their statements, not liberal at the beginning of the year. This suggests that they may be ready to accept great change in Northern Rhodesia now because of some event between now and the beginning of the year. The event may have been a decision to leave Northern Rhodesia: it is easier to tolerate change in a country one is leaving than in a land one intends to remain in. Briefly, they are not leavers because they are liberals, but liberals because they are leavers. This interpretation, of course, is notably speculative and is supported rather shakily by respondents' memories of past attitudes.

*b. Social distance.* Predictably the conservatives are reluctant to mix with Africans. A rather crude measure of social distance, described fully elsewhere (4), was used to establish this. The *S*s had to indicate, for each of 14 different situations, whether they would accept city Africans and tribal

Africans in the situation; for example, as servant, as shop assistant, as fellow student, as dance partner, as husband or wife. The total number of acceptances yielded a raw measure of social distance. Only two of the 41 conservatives made nine or more acceptances, as against 56 of the 85 other *Ss* who provided data for this item ($p < .001$). The statements of conservatives do not reveal that they have less contact with city and tribal Africans in various situations; but then one's preferences and one's experiences don't necessarily coincide.

*c. Home country.* The conservatives also have a tendency to regard South Africa as their home (Table 4a), although they have about the same proportion of South African-born persons as the others. Of the 45 conservatives for whom there is sufficient data, 14 look upon South Africa as their home, while only 12 of the 91 others do so ($p < .05$). No doubt the South African-oriented conservatives find apartheid policies close to their hearts. It is noticeable, too, that the conservatives show a distinct aversion to the United Kingdom when making a second choice of home, probably because they find British policies too liberal for their liking. The United Kingdom is a second choice of only one of the 46 conservatives but of 13 of the remaining 86 who make second choices (Fisher exact test; $p = .03$).

*d. Agreement with others.* Conservatives are often found to be particularly conformist, and the conservatives amongst our *Ss* seem no exception (Table 4b). Almost half of them (22 out of 46) say that their ideas about the future of Northern Rhodesia agree completely with their schoolmates' ideas, while less than one-fifth (17 out of 93) of the non-conservatives are in such close accord ($p < .001$). It is noteworthy that, while the peer-group exacts relatively strong conformity from conservatives, the family does not. There is no significant link between conservatism and agreement with parents. In a further probe, the *Ss* who did not agree completely with their schoolmates were asked to indicate whether they considered themselves to be more or less conservative. It was possible to check the accuracy of their self-assessments by determining the amount of change typically accepted at each school and then seeing how far each *S*s' tolerance of change departed from the mode at his school. Most (59 out of 83) of the *Ss* who thought their ideas about the future differed from their schoolmates' ideas were wrong in stating how they differed or in believing that a difference existed at all. For instance, most (34 out of 45) of those who thought they were less conservative were actually as conservative or more conservative than their schoolmates. On the whole, *Ss* who were actually more conservative than their fellows were just as likely to be wrong in assessing their own relative positions as those who were actually less conservative.

Evidently, not much reliance can be placed on self-assessments of relative conservatism. Thus the result indicating strong conformity on the part of the conservatives merely demonstrates that conservatives are more likely to claim conformity than others, not necessarily that they really are more conformist.

*e. Education.* The two remaining features of conservatism to be dealt with are objective, educational ones. Firstly, conservatives tend to be less educated than others (Table 4c). Only six of the 46 conservatives are in Form V or higher, while 30 of the 93 others reach that level ($p < .05$). It transpires that conservatism is not significantly related to age, so that the finding probably reflects the liberalising qualities of an advanced education rather than the wisdom of maturer years. Secondly, conservatives are more numerous in the Mufulira school (42 out of the 102 pupils with sufficient data for analysis) than in the Kitwe schools (four out of 37; $p < .01$). Perhaps regional differences in atmosphere account for this. Kitwe appears to be relatively cosmopolitan and sophisticated, while Mufulira has the more constricting atmosphere of a mining camp. The schools may well reflect these differences and the relative degrees of tolerance that accompany them.

### 3. *Conclusions*

Looking over the whole questionnaire study, it seems that several of the factors that were discussed in connection with permanence (like sex or optimism) were not directly linked to conservatism. Furthermore, more complicated inter-relationships involving conservatism, expectation of change and optimism, or conservatism, optimism and permanence, did not emerge here despite their appearance when the essays were analyzed. What linkages did appear were on the whole intelligible and predictable. Conservatives were reluctant to mix with Africans, inclined to regard South Africa as home and to steer clear of Britain, disposed to claim agreement with their schoolmates' views, poorly educated, and perhaps products of a limited environment. There was no direct connection between degree of conservatism and desire to depart, although a rather obscure connection appeared when predictions of change were taken into account. On the whole the information about conservatism complements that about permanence, illuminating an aspect of stability that is more connected with adjustment than with settling. The main impression one is left with is not particularly encouraging for the future. The sizable group of conservatives includes many who have not decided to leave Northern Rhodesia, and so whose recalcitrant attitudes will make adjustment to a new Northern Rhodesia considerably difficult.

## E. Essays and Questionnaires Compared

The two studies reported above, while separated by only a few months (between February and September, 1960), span such critical events as the Congo independence and the abolition of the colour bar in Northern Rhodesia. Do they indicate any changes in attitude over that period? To help answer this question, the questionnaire required subjects to indicate not only their present optimism, expectation of change and acceptance of change, but also how they stood on these issues at the beginning of the year. As predicted, there is a strong relationship ($p < .01$) between the before and after ratings on each of the three variables. This relationship is accounted for by the respondents who did not change their minds. But, in all three cases, there has been a definite shift in attitudes towards one direction. The sample has become pessimistic, and expects as well as accepts more change over that period of time.

While 66 persons became more pessimistic about the future of Northern Rhodesia, only 16 became more optimistic. This result was expected, of course, since the intervening changes in external events constituted a direct threat to white supremacy in Rhodesia. The sample also expected more general change in September than in February 1960. Eighty-six *S*s expected more change, compared to only six who expected less change. Again, the shift in attitudes was predictable. Seeing colonialism crumble fast around them, the sample realistically expected the trend to continue. Liberals seem to have been readier to predict change in February than conservatives, who may have allowed their distaste for change to influence their expectations. Complete or great change was then foreseen by more than half (24 out of 40) of those at present receptive to such change, but by less than one-third (28 out of 99) of the more conservative ($p < .001$). The change in the acceptance of change has already been mentioned in Section D. While 81 *S*s accepted the same amount of change as before, 46 accepted more change and only 12 less change. This shift towards liberalism was not, however, a foregone conclusion. One might just as well have expected a "back-to-the-wall," extreme rightist reaction to change. The fact that the change has been towards liberalism points to a general tendency for people to accept change once it has taken place. Comparing the shift in expectation and in acceptance of change, we see that the former has been greater than the latter. More people expect more change than accept it. In other words, our *S*s tend to adjust to change but not as quickly as they come to anticipate it. Presumably, then, the gap between their expectation and their acceptance of change must have increased in the inter-

vening period. This increasing gap is suggested by the increased pessimism of our sample.

Of course, these attitudes, while all quite plausible, depend on the accuracy of the *Ss*' recollections of earlier attitudes. We already have evidence of the *Ss*' fallibility in assessing relative conservatism, though this may be a more difficult feat than recalling past attitudes. Certainly, a comparison of the essays with the subsequent questionnaires suggests that these changes did indeed take place. Considering only the 115 *Ss* who completed both essays and questionnaires, we find that in February 37 per cent of the sample were optimistic as against 30 per cent in September, 10 per cent were liberal as against 28 per cent in September; 52 per cent expected considerable change as against 83 per cent later. Naturally, too much strength cannot be attached to this supporting evidence as the difference in method between questionnaire self-ratings and judges' ratings (not always coinciding) of essay material is a big one and might account for the discrepancies; but it is satisfying that the same trends should emerge.

Again with due allowance for the difference in method between essays and questionnaires, further comparisons of gross trends can be made. Both instruments show considerable uncertainty about staying in Northern Rhodesia, but the uncertainty seems to have increased since the Congo independence and the lifting of the colour bar. While 44 per cent of the *Ss* were rated as likely to stay on the Copperbelt in February 1960, only 15 per cent said that they were inclined to stay in September. The percentages showing uncertainty were 21 and 50 respectively. The meteoric collapse of the Belgian colonial regime on the doorstep of the Copperbelt, the prospect of imminent collapse of white supremacy in Northern Rhodesia and the relatively transient nature of the white Copperbelt population could account for the increased uncertainty of our respondents.

Essays and questionnaires likewise agree in that the majority are inclined to like their protected, affluent way of life on the Copperbelt. In both cases our *Ss* tend to expect more change than they are prepared to accept. This relative conservatism in the face of rapid change does not seem to be entirely unaffected by change: we have already noted that in September a higher proportion of adolescents seemed disposed to accept great change than in February. One of the crucial factors in determining willingness to stay will probably be whether the pace of adjustment to change keeps up with the pace of change itself. Internal evidence from the questionnaire seems to suggest that the gap between these two factors is increasing rather than diminishing. The essays, however, suggest that most of our sample already expected con-

siderable change as early as February. Thus the impression the questionnaires give of a widening gap (due to a small minority of those expecting great change becoming a large majority without a corresponding increase in those receptive to change) may be the result of *Ss* underestimating the amount of change they expected early in the year.

We have already touched on the lack of agreement between essays and questionnaires on the interrelationships of conservatism, expectations, and readiness to leave. In Section D it was suggested that the swing towards liberalism could explain why "liberals" were no longer disposed to stay. Other relationships—all involving optimism—which appeared strongly in the essays did not emerge from the questionnaires to a significant degree, perhaps because the *Ss* had become so generally pessimistic that subgroups like stayers or leavers could no longer be distinguished clearly in terms of optimism. There may seem to be contradictory trends in sex differences, girls being more conservative in the essays yet more liberal in the questionnaires, but neither trend is statistically significant.

Essays and questionnaires yield similar trends on a number of points, even if the trends are not always significant in both cases. On both instruments, those likely to stay on the Copperbelt tend to expect less change and to be more optimistic than those likely to emigrate. Liberals tend to expect more change than conservatives. Pessimism is related to expecting much change. Of the three main aspects of change (political, job, and social colour bar), both essays and questionnaires show acceptance of change to be greatest in the job situation.

## F. Conclusions

The main purpose of our dual exercise was to ascertain what happens to the attitudes of a minority group which feels its privileged position being threatened by major changes of a political, economic and social nature.

It must be stressed that, although the actual changes which did take place so far were relatively small, they were perceived as great by the white minority because they represented the unmistakable beginnings of an irreversible and major process of change and a direct threat to its accustomed pattern of life.

We found, then, in the five months' period during which the neighbouring Congo gained its independence and plunged into chaos, and the colour bar was abolished by the Northern Rhodesian Legislature, that a change did take place in the basic attitudes of our adolescent minority group. There was a much wider realization of impending major change, together with a wider

uncertainty about the prospect of permanent settlement and a slight shrinking of an already modest degree of optimism. While the group remained predominantly conservative in outlook, it developed neither a reactionary nor a "back-to-the-wall" attitude, nor the sudden urge to escape altogether by emigration.

In fact, faced with a strongly emerging reality there was a growing preparedness to adjust to change. Not unexpectedly, this adjustment appeared easier with regard to sharing a hitherto privileged job situation, but more difficult in the social field. In this respect our findings echo the results of the adult study to which we referred in the beginning.

Our findings indicate that, in response to a changed situation, our minority group proved to be less rigidly conservative, and more adaptable or "liberal," than its members had themselves anticipated, and that the better educated were also the more flexible. On a point of theory this means that the reaction of the minority group threatened by actual change tended to be adaptive rather than rigid and self-destructive. We must here leave open the question how much of this flexibility is an attribute of youth.

Since we are here concerned with a group which expects to yield a considerable number of white citizens and skilled workers to a country probably soon to be ruled by a black-dominated government, our conclusion leaves room for hope. It must, however, be considered in relation to future developments in the political field and the maintenance of the very structure of law and order. For it is with regard to this issue that in September, 1960 our group adopted a wait-and-see attitude to a much wider extent than it had done five months earlier.

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# NATIONAL STEREOTYPES AND THE "REFERENCE GROUP" CONCEPT*

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## A. PURPOSE

A series of studies on stereotypes were carried out in the Middle East during the past decade (6, 7, 8, 10, 11, 12). The main concern of these studies, and of similar ones in other parts of the world (1, 2, 3, 4, 5), was to answer certain questions related to the nature, generality, definiteness, consistency, etc., of stereotypes. Among the many interesting findings that were arrived at, the following ones are of particular importance to us here: *firstly*, that once stereotypes are established in a group, they tend to persist (3, 4, 13); and *secondly*, that literate subjects in different countries hold somewhat similar stereotypes of certain known national or racial groups (*viz.*, English, Jews, Americans, Russians, Negroes, and Italians) (2, 4, 7, 8, 11). These two main generalizations shall be our major concern in the present investigation.

In the first place, we are interested in testing the stability of stereotypes held by subjects in the Arab Middle East toward various nationalities and races in the world. A number of studies have pointed out that stability or consistency of stereotypes attributed to certain groups is the general rule. Katz and Braly (4) found that students at Princeton assigned stereotypes to various national groups with a high degree of consistency. Gilbert (3) also found that the same stereotypes tend to be consistently given to various national groups even after an interval of almost two decades. Sherif and Sherif (13) point out that ". . . norms or stereotypes toward out-groups tend to outlast the conditions which gave rise to them" (13, p. 286), and they state further that "once established in a group, stereotypes tend to persist" (13, p. 653). Thus, the first main point to be investigated in the present study is to test the *stability* of stereotypes in the Middle East after the lapse of almost a decade.

In the second place, we are investigating the *generality* of stereotypes in this part of the world. Again, a number of studies carried out in the Middle

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East and elsewhere have pointed out that stereotypes attributed to certain national groups tend to be generalized or almost universal. Prothro (7) states that "examinations of data from previous studies of stereotypes revealed that literate subjects in different countries held somewhat similar stereotypes of English, Jews, Americans, Russians, Negroes, Italians" (7, p. 58). In the same study, Prothro found that Armenian subjects in the Middle East, similar to English (2), Arab (11), and American (4) subjects, ". . . held quite definite stereotypes, and that these stereotypes resembled in many ways those held by other groups" (7, p. 58). In another study by Prothro (8), it was further found that even business men in the Middle East held stereotypes which ". . . were quite similar to those which a previous study had shown to be held by university students in Beirut" (8, p. 280). However, in a recent and yet unpublished study by Prothro (9), religious identification was found to be ". . . an important determiner of opinions about self and others" (9, p. 10). Prothro states that while "Moslems predominantly preferred nearby Arab states, and thought of their peoples as similar" to themselves, "Christians preferred Americans and French and thought of them as similar" (9, p. 35). In the present study, we are interested in studying this problem further by relating it to the "reference group" concept (13). For our present purposes, we have singled out two group variables for study, namely, religious group membership and political group membership. That is, in other words, we are simply asking the following two questions: (*a*) does different religious group identification contribute to a substantial difference in the nature of stereotypes assigned to various national groups? and (*b*) does difference in political group identification contribute to a substantial difference in the nature of stereotypes attributed to various national groups?

## B. Method

### 1. *Subjects*

The sample used in this study consisted of 106 male undergraduate Arab students at the American University of Beirut. Of this sample, 60 were Moslems and 46 were Christians. As to nationality, 61 were non-Lebanese Arabs (mostly Palestinians, Syrians, Iraquis, and Jordanians), and 45 were Lebanese Arabs.

### 2. *Procedure*

In order to make comparisons possible with previous studies, the Katz and Braly technique (4), as revised and used by Prothro and Melikian (11), was closely followed in this investigation. A mimeographed questionnaire in the Arabic language was presented to the *S*s. The first page of the question-

naire consisted of 99 adjectives arranged alphabetically. The *Ss* were instructed to read over carefully the list of adjectives before they were told to proceed to the rest of the questionnaire. The other pages requested the *Ss* to select from the first page as many adjectives as seemed necessary to best characterize each of the following groups: Germans, Italians, Negroes, Irish, English, Jews, Americans, Chinese, Greeks, Turks, Russians, French, and Lebanese. *Ss* were permitted to add adjectives of their own if the list on the first page seemed insufficient. "Directions on the last page instructed the students to go back over their characterizations and select five words which seemed most typical of each group" (11, p. 238). The five adjectives so selected were the only ones used in the tabulations (11).

Besides asking students for their nationality and religion, one statement was added at the end of the questionnaire which read as follows: "Indicate the degree of your approval or disapproval of the policies and principles followed by the United Arab Republic,"[1] by checking one of the following: Strongly Approve, Approve, Undecided, Disapprove, Strongly Disapprove. Responses made to this statement enabled us to separate our sample into three broad groupings: 78 who "approved" (pooling together the "strongly approve" and "approve" categories); six who were "undecided," and thus were not used in our tabulations; and, finally, 22 who "disapproved" of the U.A.R. policies and principles (based on a summing up of the "disapprove" and "strongly disapprove" categories).

## C. Results

The main results of this study are presented in Tables 1 through 5. Table 1 shows the 10 adjectives most frequently assigned to each of the 13 national groups. By comparing the results presented in this Table to those arrived at by Prothro and Melikian (11, p. 239) almost a decade ago, it is easily observed that there is considerable similarity between the two results as far as the content of the stereotypes is concerned, with some few exceptions in the case of certain national groups. This confirms our first main point in showing that the stereotypes which have been attributed to various national groups some 10 years ago are still, on the whole, the same ones that have been assigned recently to these same national groups. In other words, stereotypes tend to be stable and consistent with time. Thus, as may be seen from Table 1, Germans are still looked upon as industrial, militaristic, clever, and scientific; Italians are still thought of as being mostly artistic, musical, and

[1] Data for this study was collected during the summer of 1958, shortly after the "unification" of Egypt and Syria and the emergence of the United Arab Republic.

TABLE 1

THE ADJECTIVES MOST FREQUENTLY ASSIGNED BY ONE HUNDRED AND SIX ARAB STUDENTS OF THE MIDDLE EAST

(Numbers refer to per cent of subjects listing each adjective)

| *Germans* | | *Italians* | | *Negroes* | |
|---|---|---|---|---|---|
| industrial | 52 | artistic | 67 | simple | 48 |
| militaristic | 45 | musical | 52 | feel inferior | 34 |
| clever | 41 | emotional | 33 | patient | 28 |
| scientific | 32 | fun-loving | 23 | ignorant | 21 |
| strong-willed | 28 | imaginative | 18 | poor | 21 |
| disciplined | 21 | mercantile | 16 | down-trodden | 18 |
| practical | 19 | sociable | 16 | backward | 17 |
| strong | 17 | religious | 15 | superstitious | 16 |
| nationalistic | 17 | cute | 15 | enslaved | 16 |
| courageous | 14 | poor | 15 | aloof | 16 |
| *Irish* | | *English* | | *Jews* | |
| stingy | 32 | political | 56 | base | 50 |
| nationalistic | 29 | conservative | 47 | stingy | 50 |
| conservative | 23 | shrewd | 24 | sly | 36 |
| fanatic | 19 | industrial | 23 | materialistic | 36 |
| religious | 15 | silly | 20 | mean | 27 |
| revolutionary | 14 | democratic | 19 | mercantile | 25 |
| simple | 14 | disciplined | 17 | selfish | 21 |
| disciplined | 13 | clever | 16 | opportunistic | 21 |
| moralistic | 12 | sly | 15 | deceitful | 19 |
| well-mannered | 10 | aggressive | 14 | clever | 18 |
| *Americans* | | *Chinese* | | *Greeks* | |
| rich | 46 | poor | 30 | industrial | 50 |
| industrial | 33 | simple | 23 | self-sacrificing | 30 |
| superficial | 33 | nationalistic | 19 | nationalistic | 29 |
| materialistic | 22 | humanitarian | 19 | courageous | 25 |
| democratic | 21 | patient | 18 | militaristic | 21 |
| simple | 20 | self-sacrificing | 18 | clever | 17 |
| mercantile | 14 | clever | 16 | mercantile | 16 |
| selfish | 14 | revolutionary | 16 | strong-willed | 15 |
| sociable | 13 | superstitious | 15 | patient | 14 |
| practical | 11 | energetic | 15 | energetic | 14 |
| *Turks* | | *Russians* | | *French* | |
| militaristic | 31 | industrial | 34 | emotional | 28 |
| tyrannical | 30 | doctrinaire | 31 | tyrannical | 20 |
| base | 23 | militaristic | 25 | selfish | 19 |
| coarse | 23 | scientific | 20 | base | 19 |
| poor | 23 | materialistic | 18 | reckless | 19 |
| strong | 23 | strong | 17 | nervous | 18 |
| fanatic | 21 | sportsmanlike | 16 | artistic | 15 |
| mean | 20 | clever | 16 | materialistic | 15 |
| subservient | 20 | strong-willed | 15 | aggressive | 14 |
| courageous | 16 | practical | 14 | stubborn | 13 |
| | | *Lebanese* | | | |
| | | sectarian | 59 | | |
| | | mercantile | 39 | | |
| | | clever | 28 | | |
| | | sociable | 21 | | |
| | | hospitable | 19 | | |
| | | cute | 15 | | |
| | | cultured | 13 | | |
| | | imitative | 13 | | |
| | | materialistic | 12 | | |
| | | democratic | 12 | | |

emotional; Negroes are still described as simple, feeling inferior, patient, and ignorant; Jews are still conceived of as base, stingy, sly, materialistic, and mean; Americans are still pictured as rich, industrial, superficial, materialistic, and democratic; etc., with very slight and insignificant changes in the content of the stereotypes attributed to these groups from the Prothro and Melikian study (11).

However, there are some significant changes in the nature of stereotypes assigned to the French, Turks, and Russians. While the French were thought of in 1951 as ". . . a nervous, emotional, fun-loving people who were egoistic and deceitful" (11, p. 241), they are now pictured as an emotional, reckless, and nervous people who are tyrannical, selfish, and base. The stereotype of the Turks has changed from that of ". . . a strong, nationalistic, courageous people who are arrogant, dogmatic, and oppressive" (11, p. 241) to that of a militaristic, tyrannical, and strong people who are at the same time base, coarse, mean, fanatic, and poor. The Russians, who were looked upon previously as "doctrinaire, strong, revolutionary, and militaristic," are still perceived in a similar fashion, with the addition of the stereotypes "industrial" and "scientific." Finally, the Greeks, who were not included in the study by Prothro and Melikian (11), are looked upon as being industrial, self-sacrificing, nationalistic, courageous, and militaristic.

Tables 2 through 5 provide us with answers to the questions that were raised in connection with the second main point of this study, namely, the generality of stereotypes in this part of the world. The first question that we asked revolved around the variable of religious group membership: Do Moslems differ from Christians in the content of the stereotypes that they assign to the 13 national groups? As may be seen from Tables 2 and 3, it appears that difference in religious group membership is associated with a difference in the stereotypes assigned to some of the 13 national groups. The main differences appear in relation to the Jews and French. While the Moslem *Ss* in our sample described the Jews as "mercantile, opportunistic, deceitful, and aggressive," the Christians, on the other hand, characterized them as "clever, fanatic, rich, and sectarian." It is obvious here that on the basis of these differences in characterization, and apart from the stereotypes that they gave in common, Moslems appear to be more unfavorable toward Jews than Christians. A similar picture is obtained in the stereotypes attributed to the French. While Moslems see the French as "base, materialistic, aggressive, mean, and oppressive," the Christians see them as "nervous, artistic, musical, militaristic, and revolutionary." Less important differences are observed in connection with the Americans and English. While the Amer-

TABLE 2

THE ADJECTIVES MOST FREQUENTLY ASSIGNED BY SIXTY MOSLEM ARAB STUDENTS OF THE MIDDLE EAST

(Numbers refer to per cent of subjects listing each adjective)

| *Germans* | | *Italians* | | *Negroes* | |
|---|---|---|---|---|---|
| industrial | 51 | artistic | 61 | simple | 48 |
| militaristic | 46 | musical | 38 | feel inferior | 30 |
| scientific | 38 | emotional | 32 | patient | 28 |
| clever | 28 | fun-loving | 27 | poor | 22 |
| disciplined | 22 | imaginative | 17 | †down-trodden | 22 |
| practical | 20 | sociable | 17 | †superstitious | 20 |
| strong-willed | 18 | cute | 17 | backward | 18 |
| nationalistic | 13 | mercantile | 15 | ignorant | 17 |
| courageous | 13 | poor | 12 | †enslaved | 17 |
| †*superior | 13 | †*sportsmanlike | 10 | *strong | 13 |
| *Irish* | | *English* | | *Jews* | |
| stingy | 30 | political | 55 | base | 53 |
| nationalistic | 23 | conservative | 46 | stingy | 50 |
| conservative | 20 | shrewd | 25 | materialistic | 33 |
| †moralistic | 13 | industrial | 22 | †mercantile | 32 |
| fanatic | 12 | democratic | 20 | sly | 28 |
| religious | 12 | †disciplined | 18 | mean | 25 |
| revolutionary | 12 | †aggressive | 18 | †opportunistic | 25 |
| disciplined | 12 | clever | 13 | selfish | 22 |
| †well-mannered | 12 | †*responsible | 13 | †deceitful | 22 |
| †*peaceful | 12 | sly | 10 | †*aggressive | 18 |
| *Americans* | | *Chinese* | | *Greeks* | |
| rich | 42 | poor | 28 | industrial | 45 |
| superficial | 38 | simple | 27 | nationalistic | 25 |
| †materialistic | 32 | †humanitarian | 22 | courageous | 22 |
| industrial | 28 | †patient | 22 | self-sacrificing | 18 |
| †selfish | 18 | nationalistic | 15 | †patient | 18 |
| simple | 15 | clever | 13 | †energetic | 17 |
| democratic | 10 | revolutionary | 13 | militaristic | 13 |
| mercantile | 10 | †*peaceful | 13 | clever | 13 |
| sociable | 10 | superstitious | 12 | †strong-willed | 13 |
| †*pretentious | 10 | energetic | 12 | mercantile | 10 |
| *Turks* | | *Russians* | | *French* | |
| militaristic | 32 | industrial | 38 | emotional | 28 |
| tyrannical | 25 | doctrinaire | 28 | tyrannical | 25 |
| strong | 25 | militaristic | 23 | †base | 25 |
| coarse | 23 | scientific | 22 | selfish | 23 |
| fanatic | 20 | materialistic | 18 | reckless | 22 |
| poor | 17 | strong | 18 | †materialistic | 18 |
| base | 15 | clever | 17 | †aggressive | 18 |
| mean | 15 | †strong-willed | 17 | †*mean | 15 |
| †courageous | 15 | †practical | 17 | †*oppressive | 13 |
| subservient | 13 | sportsmanlike | 13 | stubborn | 12 |
| | | *Lebanese* | | | |
| | | sectarian | 65 | | |
| | | mercantile | 35 | | |
| | | †sociable | 30 | | |
| | | clever | 23 | | |
| | | †imitative | 18 | | |
| | | hospitable | 17 | | |
| | | cute | 17 | | |
| | | †*adaptable | 15 | | |
| | | democratic | 12 | | |
| | | †*opportunistic | 10 | | |

* Refers to adjectives not appearing in Table 1.

† Refers to adjectives not appearing in Table 3.

icans were described as "materialistic, selfish, and pretentious" by the Moslems, they were seen as "practical, scientific, and hospitable" by the Christians. Moslems characterized the English as disciplined and aggressive, while Christians saw them as silly and mercantile. Further examples of minor differences

TABLE 3

THE ADJECTIVES MOST FREQUENTLY ASSIGNED BY FORTY-SIX CHRISTIAN ARAB STUDENTS OF THE MIDDLE EAST

(Numbers refer to per cent of subjects listing each adjective)

| *Germans* | | *Italians* | | *Negroes* | | *Irish* | |
|---|---|---|---|---|---|---|---|
| clever | 56 | artistic | 63 | simple | 43 | nationalistic | 24 |
| industrial | 50 | musical | 61 | feel inferior | 37 | stingy | 22 |
| militaristic | 41 | emotional | 30 | patient | 26 | fanatic | 20 |
| strong-willed | 39 | †religious | 22 | ignorant | 26 | conservative | 17 |
| †strong | 28 | imaginative | 17 | †aloof | 22 | religious | 13 |
| scientific | 22 | poor | 17 | poor | 20 | †simple | 13 |
| nationalistic | 22 | fun-loving | 15 | †*humanitarian | 17 | †*nervous | 13 |
| disciplined | 20 | mercantile | 15 | backward | 15 | revolutionary | 11 |
| practical | 17 | sociable | 13 | †*loyal | 15 | disciplined | 9 |
| courageous | 15 | cute | 11 | *strong | 15 | †*silly | 9 |
| *English* | | *Jews* | | *Americans* | | *Chinese* | |
| political | 54 | stingy | 48 | rich | 46 | poor | 28 |
| conservative | 43 | sly | 46 | industrial | 35 | †self-sacrificing | 26 |
| †silly | 33 | base | 43 | democratic | 33 | nationalistic | 22 |
| industrial | 24 | materialistic | 37 | simple | 24 | clever | 17 |
| shrewd | 22 | mean | 28 | superficial | 22 | revolutionary | 17 |
| †*mercantile | 22 | †clever | 24 | mercantile | 17 | superstitious | 17 |
| clever | 20 | †*fanatic | 24 | sociable | 15 | energetic | 17 |
| sly | 20 | selfish | 20 | †practical | 13 | †*courageous | 17 |
| democratic | 17 | †*rich | 20 | †*scientific | 9 | simple | 15 |
| †*strong-willed | 11 | †*sectarian | 17 | †*hospitable | 9 | †*industrial | 15 |
| *Greeks* | | *Turks* | | *Russians* | | *French* | |
| industrial | 46 | tyrannical | 33 | doctrinaire | 33 | †nervous | 28 |
| self-sacrificing | 39 | base | 30 | industrial | 28 | emotional | 26 |
| nationalistic | 28 | poor | 28 | militaristic | 26 | †artistic | 20 |
| militaristic | 26 | militaristic | 26 | sportsmanlike | 20 | reckless | 15 |
| courageous | 24 | subservient | 26 | scientific | 17 | †*musical | 15 |
| mercantile | 20 | mean | 24 | materialistic | 17 | tyrannical | 13 |
| clever | 17 | coarse | 20 | strong | 15 | selfish | 13 |
| †*strong | 15 | fanatic | 20 | clever | 15 | stubborn | 13 |
| †*conservative | 9 | strong | 17 | †*revolutionary | 15 | †*militaristic | 11 |
| †*imitative | 7 | †*criminalistic | 17 | †*tyrannical | 13 | †*revolutionary | 9 |

| *Lebanese* | |
|---|---|
| sectarian | 48 |
| mercantile | 43 |
| clever | 33 |
| hospitable | 22 |
| †cultured | 20 |
| †materialistic | 17 |
| †*fun-loving | 15 |
| cute | 13 |
| democratic | 13 |
| †*selfish | 11 |

* Refers to adjectives not appearing in Table 1.
† Refers to adjectives not appearing in Table 2.

in stereotyping between Moslems and Christians show that while the Turks are seen as courageous by the former, they are characterized as criminalistic by the latter; and while the Moslems see the Russians as strong-willed and practical, Christian subjects describe them as revolutionary and tyrannical.

The second question that we asked in connection with the second main point of our study (*viz.*, the generality of stereotypes) revolved around the variable of political group identification: Is there a difference in the stereotypes assigned to the 13 national groups between those who "approve" of the policies and principles of the United Arab Republic and those who "disapprove" of them? Tables 4 and 5 provide us with answers to this question. The main differences seem to exist in the content of stereotypes assigned to English, Jews, Chinese, Turks, Russians, and French. Those who "approved" the U.A.R. policies and principles described the English as "sly and aggressive," the Jews as "mean and aggressive," the Chinese as "humanitarian, energetic, and strong-willed," the Turks as "fanatic, subservient, and ignorant," the Russians as "strong-willed, strong, practical, political, and revolutionary," and the French as "tyrannical, base, selfish, aggressive, and oppressive." On the other hand, those who "disapproved" of the U.A.R. policies and principles described the English as "strong-willed and neat," the Jews as "clever and sectarian," the Chinese as "superstitious and ignorant," the Turks as "courageous, stubborn, and nationalistic," the Russians as "materialistic, tyrannical, clever, enslaved, and oppressive," and the French as "stubborn, musical, artistic, revolutionary, militaristic, and kind." It is obvious from these differences in stereotyping that political group identification should not be ignored in studies of stereotypes. The pro-U.A.R. *Ss* (i.e., those who "approved") have a less favorable attitude toward the English, Jews, Turks, and French than the anti-U.A.R. subjects; while, on the other hand, the anti-U.A.R. *Ss* have a less favorable attitude toward the Chinese and Russians than the pro-U.A.R. group. This seems to be understandable in the light of existing functional relations among these various groups.

## D. Discussion

Our results indicate that, in general, the stereotypes attributed to various national groups by the present sample of Arab *Ss* are very widely similar in content to the stereotypes that have been assigned to these groups in a study by Prothro and Melikian (11) some 10 years ago. The only significant differences were observed in the characterizations of the French and Turks, which became now more unfavorable. Such variations in the contents of stereotypes towards French and Turks may be explained on the basis of exist-

ing functional relations between Arabs on the one hand, and French and Turks on the other. The Algerian problem undoubtedly contributed to the present picture of the French as "an emotional, reckless, and nervous people who are tyrannical, selfish, and base." On the other hand, Turkey is perceived

TABLE 4

THE ADJECTIVES MOST FREQUENTLY ASSIGNED BY TWENTY-TWO ARAB STUDENTS OF THE MIDDLE EAST WHO "DISAPPROVED" OF THE U.A.R. POLICIES AND PRINCIPLES
(Numbers refer to per cent of subjects listing each adjective)

| *Germans* | | *Italians* | | *Negroes* | | *Irish* | |
|---|---|---|---|---|---|---|---|
| industrial | 64 | musical | 59 | simple | 45 | conservative | 27 |
| militaristic | 64 | artistic | 55 | †aloof | 32 | nationalistic | 23 |
| clever | 45 | emotional | 27 | ignorant | 27 | religious | 23 |
| scientific | 36 | religious | 27 | poor | 23 | stingy | 18 |
| strong-willed | 36 | mercantile | 23 | superstitious | 23 | fanatic | 18 |
| †courageous | 32 | cute | 18 | feel inferior | 18 | simple | 14 |
| strong | 18 | †*energetic | 18 | †*peaceful | 18 | †*courageous | 14 |
| †*ambitious | 18 | fun-loving | 14 | †*strong | 18 | †*shrewd | 9 |
| practical | 14 | †*materialistic | 14 | †*individualistic | 9 | †well-mannered | 5 |
| nationalistic | 14 | †*peaceful | 9 | †*nationalistic | 9 | †*progressive | 5 |
| *English* | | *Jews* | | *Americans* | | *Chinese* | |
| political | 77 | materialistic | 45 | rich | 59 | poor | 36 |
| conservative | 36 | stingy | 41 | industrial | 36 | †superstitious | 32 |
| shrewd | 32 | sly | 32 | democratic | 32 | self-sacrificing | 23 |
| industrial | 32 | mercantile | 32 | simple | 27 | †*ignorant | 23 |
| silly | 23 | †clever | 32 | materialistic | 23 | simple | 18 |
| democratic | 23 | base | 27 | superficial | 18 | patient | 18 |
| disciplined | 18 | selfish | 23 | †*oppressive | 18 | revolutionary | 18 |
| clever | 18 | opportunistic | 23 | †*militaristic | 18 | nationalistic | 14 |
| †*strong-willed | 18 | deceitful | 18 | mercantile | 14 | clever | 9 |
| †*neat | 9 | †*sectarian | 18 | †*energetic | 5 | †*shrewd | 9 |
| *Greeks* | | *Turks* | | *Russians* | | *French* | |
| industrial | 50 | militaristic | 45 | industrial | 36 | emotional | 27 |
| self-sacrificing | 36 | strong | 41 | militaristic | 36 | reckless | 27 |
| courageous | 32 | tyrannical | 32 | †materialistic | 36 | †stubborn | 27 |
| nationalistic | 27 | poor | 23 | †*tyrannical | 27 | nervous | 23 |
| clever | 23 | coarse | 18 | sportsmanlike | 18 | †*musical | 23 |
| mercantile | 18 | mean | 18 | doctrinaire | 14 | †artistic | 18 |
| †*imitative | 18 | †courageous | 18 | scientific | 14 | †*revolutionary | 18 |
| militaristic | 14 | †*stubborn | 18 | †clever | 14 | †*militaristic | 18 |
| strong-willed | 14 | base | 14 | †*enslaved | 14 | †*kind | 14 |
| †*artistic | 9 | †*nationalistic | 14 | †*oppressive | 14 | materialistic | 9 |

| *Lebanese* | |
|---|---|
| mercantile | 50 |
| sectarian | 45 |
| clever | 27 |
| hospitable | 27 |
| sociable | 14 |
| cute | 14 |
| materialistic | 14 |
| †democratic | 14 |
| †*ambitious | 14 |
| †*rich | 9 |

* Refers to adjectives not appearing in Table 1.
† Refers to adjectives not appearing in Table 5.

by Arab nationalists as a strong military neighbor which stands against the aspirations of the Arabs for unity. Thus, the Turks are pictured as "a militaristic, tyrannical, and strong people who are at the same time base, coarse, mean, fanatic, and poor." Apart from these two main exceptions in stereo-

TABLE 5

THE ADJECTIVES MOST FREQUENTLY ASSIGNED BY SEVENTY-EIGHT ARAB STUDENTS OF THE MIDDLE EAST WHO "APPROVED" OF THE U.A.R. POLICIES AND PRINCIPLES
(Numbers refer to per cent of subjects listing each adjective)

| *Germans* | | *Italians* | | *Negroes* | | *Irish* | |
|---|---|---|---|---|---|---|---|
| industrial | 46 | artistic | 64 | simple | 44 | stingy | 27 |
| militaristic | 42 | musical | 44 | feel inferior | 37 | nationalistic | 24 |
| clever | 40 | emotional | 33 | †patient | 32 | conservative | 15 |
| scientific | 31 | fun-loving | 26 | poor | 22 | †revolutionary | 15 |
| strong-willed | 24 | †imaginative | 21 | †down-trodden | 22 | fanatic | 14 |
| †disciplined | 24 | †sociable | 17 | ignorant | 19 | †*nervous | 13 |
| practical | 21 | cute | 14 | †backward | 19 | simple | 12 |
| strong | 17 | religious | 12 | †*sportsmanlike | 18 | †disciplined | 12 |
| nationalistic | 17 | †poor | 12 | †enslaved | 17 | †moralistic | 12 |
| †*energetic | 15 | mercantile | 10 | superstitious | 14 | religious | 10 |
| *English* | | *Jews* | | *Americans* | | *Chinese* | |
| conservative | 49 | base | 53 | rich | 37 | poor | 26 |
| political | 46 | stingy | 50 | superficial | 35 | simple | 24 |
| industrial | 22 | sly | 37 | industrial | 32 | †humanitarian | 22 |
| shrewd | 19 | materialistic | 32 | materialistic | 22 | nationalistic | 21 |
| silly | 18 | †mean | 32 | †selfish | 18 | patient | 18 |
| democratic | 18 | mercantile | 22 | democratic | 14 | †energetic | 18 |
| †sly | 17 | opportunistic | 21 | simple | 14 | self-sacrificing | 17 |
| †aggressive | 17 | selfish | 19 | mercantile | 14 | clever | 15 |
| disciplined | 15 | deceitful | 19 | †sociable | 10 | revolutionary | 15 |
| clever | 13 | †*aggressive | 19 | †practical | 9 | †*strong-willed | 13 |
| *Greeks* | | *Turks* | | *Russians* | | *French* | |
| industrial | 45 | militaristic | 26 | doctrinaire | 36 | emotional | 29 |
| nationalistic | 27 | tyrannical | 26 | industrial | 35 | †tyrannical | 27 |
| self-sacrificing | 24 | base | 24 | scientific | 23 | †base | 23 |
| militaristic | 22 | coarse | 23 | militaristic | 21 | †selfish | 22 |
| courageous | 21 | †fanatic | 22 | †strong-willed | 18 | reckless | 18 |
| †energetic | 15 | †subservient | 22 | †strong | 17 | nervous | 18 |
| clever | 14 | poor | 21 | sportsmanlike | 17 | materialistic | 17 |
| mercantile | 14 | mean | 21 | †practical | 17 | †aggressive | 17 |
| †*strong | 14 | strong | 17 | †*political | 17 | †*oppressive | 12 |
| strong-willed | 13 | †*ignorant | 15 | †*revolutionary | 15 | †*cultured | 9 |

| *Lebanese* | |
|---|---|
| sectarian | 64 |
| mercantile | 36 |
| clever | 27 |
| sociable | 23 |
| †cultured | 17 |
| hospitable | 15 |
| cute | 14 |
| †imitative | 13 |
| materialistic | 13 |
| †*adaptable | 13 |

* Refers to adjectives not appearing in Table 1.
† Refers to adjectives not appearing in Table 4.

typing, the general picture is one of stability and consistency of stereotypes, allowing us to conclude with Sherif and Sherif that "once established in a group, stereotypes tend to persist" (13, p. 653). But, a question concerning the groupness of the group is in order here.

Does the sample that we used in this investigation constitute a *group*? Admittedly, all of our *Ss* are Arabs and students at this university; but, do they meet the properties or criteria of groups? (13, pp. 143-178). The answer seems to us to be a qualified "no." The sample is made up of Arab *Ss* who belong to different religious affiliations, political group memberships, nationalities, and socio-economic classes. With differences in so many important group variables, our sample has to be considered heterogeneous in composition consisting of so many groupings. With this fact in mind, it may very well be that any differences obtained in stereotypes assigned to various national groups may have resulted mostly from the nature and composition of the sample rather than from other possible considerations. That such possibilities exist is substantiated by the results we obtained in this study concerning the generality of stereotypes among various groupings within our sample.

It was found, for example, that Christian *Ss*, in contrast to Moslem *Ss*, had more favorable stereotypes assigned to the Jews and the French. Also, anti-U.A.R. subjects, in contrast to pro-U.A.R. *Ss*, in our sample, had more favorable stereotypes attributed to the Jews and French, as well as to the English and Turks. It may be that the two variables of religious affiliation and political ideology are related, at least in our sample. This seems to be a point worth considering in future studies of stereotypes, by utilizing larger samples. However, we may tentatively hypothesize here that political group identification would be the most important contributor to differences in the stereotyping of various national groups among our *Ss*. Such a generalization will hold true depending on the extent to which the individual identifies himself with the political group in question, thus making it his own *reference group*.

If the reference group provides the main anchorages for the experience and behavior of individuals, then it is of utmost importance that such information be investigated and assessed to throw meaning on our results. "Without such investigation the individual's psychological relatedness might be sought only in groups of which he is a registered member" (13, pp. 175-176). Once the reference group of any number of *Ss* in our sample is determined, it would then enable us to predict the nature of the stereotypes that will be assigned to certain national groups. This prediction will have to be made in the light of the nature of group relations that exist between the *Ss*' reference group and

the national groups in question. As stated by Sherif and Sherif, "stereotypes concerning the essential nature of a group and its members accompany social-distance norms. In fact, stereotypes can be taken as one index of social distance" (13, p. 653).

Another procedural point, apart from sampling, is in order here. Would the stereotypes assigned to a national group be affected if the *number* and *kind* of national groups presented in the sample differed? For example, would the stereotypes attributed to the French differ if we included Algerians as one of the national groups? Furthermore, what would happen to the content of stereotypes attributed to the different national groups if such list excluded those groups in which unfavorable attributes are assigned most frequently? Would, for example, some of the unfavorable stereotypes usually assigned to these excluded groups be now assigned to the remaining ones? These are some important questions which will be dealt with in a follow-up study on stereotypes in the Arab Middle East.

## E. Summary

The purpose of the present study was to investigate the stability and generality of stereotypes assigned to 13 national groups by Arab *Ss* in the Middle East.

The sample consisted of 106 male undergraduate Arab students at the American University of Beirut, of whom 60 were Moslems and 46 were Christians. In terms of political orientation, 78 subjects "approved" the policies and principles followed by the United Arab Republic and 22 "disapproved." The Katz and Braly technique was used and closely followed in this investigation.

The study shows that, in general, stereotypes assigned to various national groups tend to persist throughout the years, as revealed by our total sample. However, significant differences in the stereotyping of certain national groups were obtained in this study when the sample was subdivided according to two important group identifications, namely, religious group affiliation and political group membership. Thus, Moslems were found to differ from Christians in their stereotyping of certain national groups (*viz.*, Jews and French), and pro-U.A.R. *Ss* were found to differ from anti-U.A.R. *Ss* in the content of stereotypes attributed to certain national groups (*viz.*, Jews, French, English, and Turks). Consequently, the "reference group" concept was utilized in order to account meaningfully for these differences.

Suggestions for future studies on stereotypes were discussed. These included the sampling procedure and the number and kind of national groups presented to the *Ss* at a time.

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# ATTITUDES TOWARDS IDEALIZED TYPES IN AUSTRALIA AND MALAYA*

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## A. PURPOSE

As part of a larger survey[1] Malayan subjects had been asked to rank saints, scholars, heroes and artists according to the importance ascribed to them. These ideal types of persons seem likely to be sufficiently well understood from one culture to another to form the basis of cultural comparisons. Similar data were therefore collected from Australian subjects.

The question to be investigated was whether or not a common framework could be obtained within which cultural differences in the observed rankings could be discussed. It was thought that one method of scaling persons and stimuli, Coombs' unfolding technique (1) might provide a common framework while evidence for perceptual distortion could be sought using Torgerson's method of multidimensional scaling (3).

## B. SUBJECTS

The Malayan *S*s were predominantly late adolescents between the ages of 16 and 20 years. These *S*s were interviewed by volunteers from the Girl Guide Movement as part of a more general study. The Australian *S*s were university students from a slightly higher age group. The following table shows numbers of *S*s by sex and nationality, the Malayan *S*s are further divided into groups according to racial origin, *i.e.*, Malay, Chinese or Indian.

TABLE 1
AUSTRALIAN AND MALAY STUDENT STUDY

| | Australian | Malayan | Racial Groups Indian | Chinese | Malay |
|---|---|---|---|---|---|
| Men | 104 | 263 | 90 | 108 | 65 |
| Women | 139 | 323 | 69 | 190 | 64 |
| Total | 243 | 586 | 159 | 298 | 129 |

* Received in the Editorial Office on December 8, 1961, and given prior publication in accordance with our policy on cross-cultural research.

[1] This survey was carried out by the Malayan Girl Guides Movement for UNESCO. The writer assisted with the tabulation of data.

### C. Procedure

The Malayan *Ss* were each asked the following question:

> According to the importance you ascribe to them, in what order would you classify heroes, saints, men of science or learning, artists.

The Australian *Ss* were asked to indicate whether they felt positively or negatively or were indifferent to the types of persons included in the terms saints, heroes, scholars, artists, as well as to other stimuli which included types of activities, political parties and crimes. The stimuli were then presented in pairs and *Ss* were asked to underline the word which referred to the stimulus they preferred in the sense of feeling more positively or less negatively towards. Having made this response the *Ss* were asked to indicate how different these stimuli were with respect to factors influencing their choices by making a cross on a line labelled "no difference" on the left-hand side, and "as different as possible" on the right-hand side. The four stimuli were presented in all possible pairs.

### D. Analysis of Data

#### 1. *The Multidimensional Diagram*

Since the Malayan data were in the form of ranks, the Australian data were converted to ranks by counting the number of times each stimulus was preferred and ranked in this order. The possibility of inconsistency of choice arises by this method and such cases were set on one side. In fact only five per cent of cases were inconsistent which is satisfactory when it is considered that if preferences were allocated at random there would be 62.5 per cent of cases inconsistent. The inconsistent cases enter into the analysis again at a later stage.

The initial analysis was carried out by applying the multidimensional unfolding technique using the tables prepared by McElwain and Keats (2) to the total 829 *Ss*. It was found that 97 per cent of cases could be accounted for by means of the pattern of stimuli shown in Diagram 1. The percentage for Malayan *Ss* alone was somewhat higher than that for Australian *Ss*, but there was no better fitting solution for this latter group.

The 18 areas in Diagram 1 correspond to 18 of the 24 possible rankings of four stimuli in that the distances of the stimuli from any point in the area may be ranked, and the order will be the same for each point in the area. The boundaries for each area are perpendicular bisectors of the lines joining each pair of points. If one of these is crossed then the order of one pair of stimuli is reversed. Because only 18 of the 24 orders are accounted for, it is

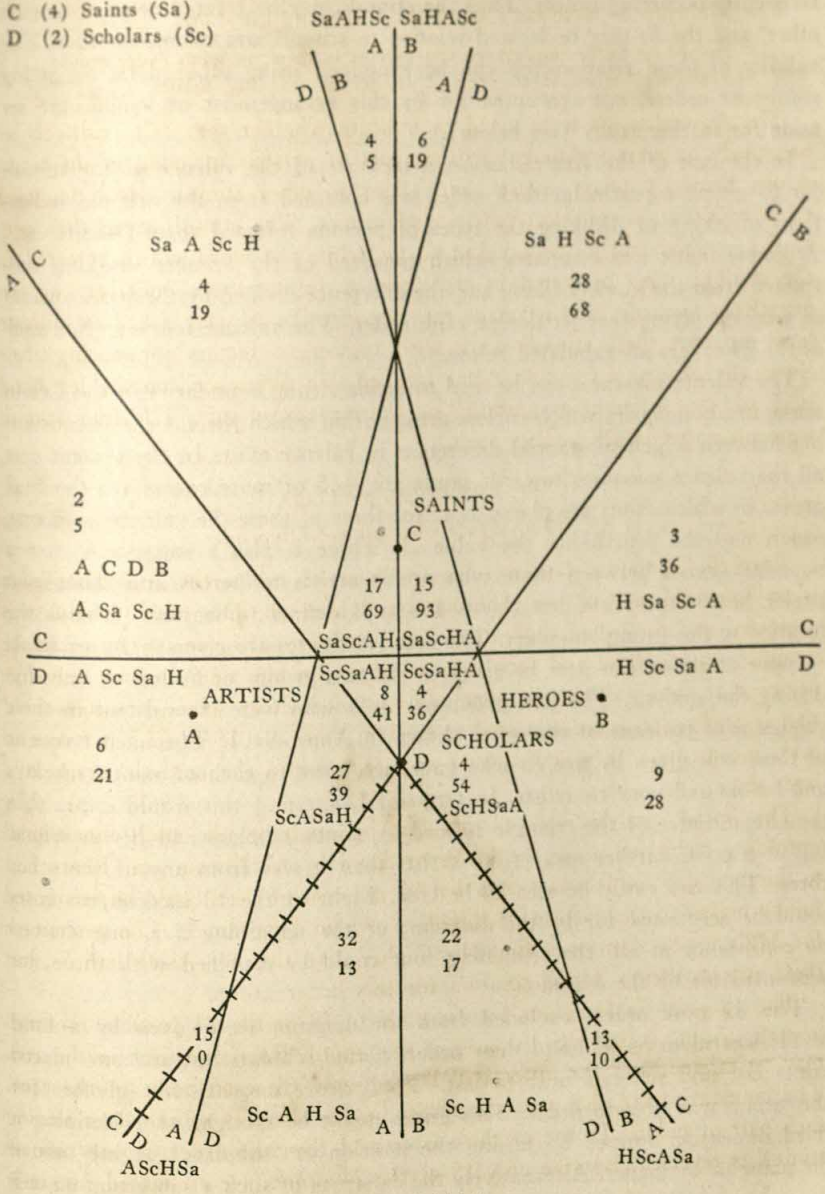


DIAGRAM 1

THE INTERRELATIONSHIP BETWEEN PERSONS AND STIMULI IN TWO DIMENSIONS*

* The numbers refer to the frequency of Australian (top) & Malayan subjects.

possible to select that arrangement of stimuli which will account for the most frequently occurring orders. Thus the stimuli may be located relative to each other, and the *Ss* may be located relative to stimuli and to one another. The validity of these relationships can be examined using other data. *Ss* giving consistent orders, not accounted for by this arrangement of stimuli are set aside for further study (see below).

In the case of the Australian *Ss*, a measure of the valence of the stimuli for *Ss* giving a particular rank order was obtained from the original indications of liking or disliking the types of persons referred to as "saints etc." A simple index was computed which consisted of the number disliking subtracted from the number liking and the difference divided by the total number of subjects giving that particular rank order. The valence measures for each of the 24 orders are tabulated below.

The valence measures can be used to define strong boundaries in the Lewin sense, *i.e.*, boundaries which enclose areas within which the valence is constant but between which substantial differences in valence exist. In the present case all the valence measures towards saints are +.5 or more except for the four orders in which saints are placed last; for three of these the valence is of zero order, and the fourth has the value .3. There is also a suggestion that a boundary exists between those who prefer artists to heroes and those who prefer heroes to artists, but this is less well defined. Diagram 1 shows the location of the strong boundary. The detailed figures are given in Appendix I.

Some attention can now be given to the two groups of *Ss* left to one side during the analysis. The first group of 13 *Ss* who were inconsistent in their choices gave patterns of choices as shown in Appendix I. The most frequent of these was given by five *Ss* who gave two votes to each of saints, scholars and heroes and none to artists. In terms of Diagram 1 this would imply that the circumcentre of the triangle formed by saints, scholars and heroes would fall at a point further away from artists than it was from any of the other three. This can easily be seen to be true. Eight of the 13 inconsistent cases could be accounted for by the diagram; of the remaining five, one showed no consistency at all, the remaining four could be classified with those not accounted for by the diagram.

The six rank orders excluded from the diagram were given by a total of 11 Australian *Ss*. Four of these orders placed scholars last and two placed saints last and scholars next to last. The valence measure for scholars for this group was of zero order. This group might be thought of as defining a third dimension formed by raising the position of "scholars" slightly above the plane of the paper. Alternatively the existence of such a sub-group among

a student body suggests that they were attending university for social reasons rather than a genuine liking for scholarship; *i.e.*, that this group was poorly acculturated to the university.

Within the framework of the unfolding theory it is now possible to compare the data for Malayan and Australian *S*s. Perhaps the most striking difference between these groups lies in the proportion of *S*s within the closed boundary, *i.e.*, placing saints last. The percentages were 35 for Australia but only seven for Malaya with no significant differences between the racial groups in Malaya. In each of the four regions inside the strong boundary, Australians outnumber Malays whereas in each of the remaining 14 regions Malays outnumber Australians. The existence of the strong boundary is thus validated in this crosscultural comparison. Further cultural differences may be observed from data relating to sex differences. The four subgroups may be examined with respect to sex differences on the two major dimensions, *i.e.*, saints versus scholars and artists versus heroes. The results may be summarized as follows: (*a*) In the Malay subgroup there is a general preference for heroes over artists with women showing a significantly greater tendency in this direction. There is no tendency to prefer saints to scholars or vice versa. (*b*) In the Chinese subgroup, men prefer artists and women prefer heroes. Men prefer scholars, women prefer saints. (*c*) In the Indian subgroup there is a general preference for heroes over artists with women showing a greater tendency in this direction than men. There is also a general tendency to prefer saints to scholars, with women again showing a greater tendency in this direction than men. (*d*) With the Australian students the situation is complicated by the existence of the strong boundary dividing the group. The essential sex differences lie in the regions in which saints are placed last and heroes are preferred to artists, in which there are significantly more men than women as opposed to the regions in which saints are *not* placed last and artists are preferred to heroes in which there are significantly more women than men.

### 2. *Perceptual Distortion*

The ratings of the differences between stimuli by the Australian *S*s were used as distance measures and formed the basis of a multidimensional scaling. However instead of carrying out the analysis for the group as a whole, the analysis was carried out for the 80 *S*s who put saints last and the 74 *S*s who put saints first. It was found, in both cases that two dimensions were sufficient to accommodate the distances between the stimuli. However the location of the stimuli was quite different for the two groups. As shown in Diagram 2

below, the *S*s who put saints first saw the stimuli saints, scholars and artists in that order as an almost straight line, with heroes forming a second dimension. The *S*s who ranked saints last saw saints and scholars forming a major dimension with artists and heroes forming the smaller. The initial letters of the stimuli have been circled for this group.

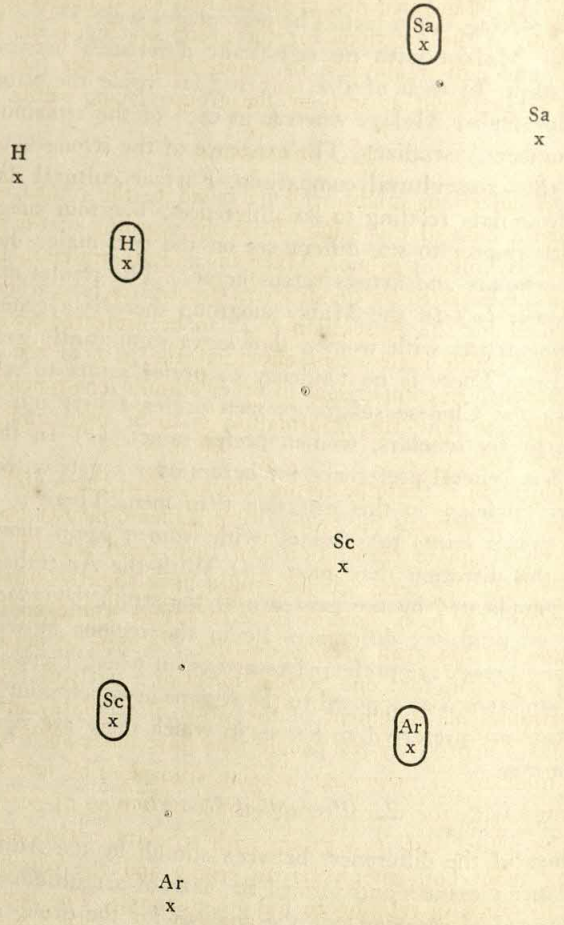


DIAGRAM 2

THE LOCATION OF THE FOUR STIMULI AS PERCEIVED BY TWO GROUPS OF SUBJECTS*

* The circled points are the locations for subjects who placed saints last, the remainder are the locations for subjects who placed saints first.

The distortion shown by the difference between these two groups is considerable and the departure from the shape given by Diagram 1 means that some points of view that could be accommodated by that diagram cannot be accommodated by the arrangements given in Diagram 2. The rankings which cannot now be accommodated can be worked out by reference to the tables provided by McElwain and Keats (2). These rankings are given by 17 Australians and 51 Malayans, *i.e.,* approximately eight per cent of the total group in the case of the locations for the group placing saints first, *but* by 99 Australians and 326 Malayans, *i.e.,* more than 50 per cent of the total group for the arrangement as seen by the group placing saints last.

## E. Discussion

A number of objections might well be raised to the comparisons made in the analysis of the data of this study. First the wording of the questions was different for the two major groups, Malayans and Australians. The difference in wording was necessitated by the different procedures for gathering the data. The method used for the Australian *S*s is to be preferred as it gives much more information with little extra effort on the part of the *S*. If related stimuli are embedded in comparisons of other stimuli it is much more difficult for *S*s to appreciate how the information is to be used and to bias their answers accordingly.

A second objection is that the terms scholar, artist, hero and saint refer to different types of persons in the two cultures. This difficulty besets any study which relies on adequate translation and then upon sets of referents with common properties. The term scholar would have slightly different meanings within any culture, at least some of these meanings would apply to whatever word or words the Malayan uses to describe this type of person in his own culture. The argument that one person thinks of a particular type of scholar and this determines his judgment of the value of scholars cannot be used as an objection as it is precisely the people who have made such connections and the relative numbers of these that is being studied. The fact that Malayans when presented with the word "saint" think of a type of person who would only rarely be placed last in a group with scholars, artists and heroes, tells us something about both the Malayan people and the value they place on what they call saints in relation to the other stimuli. The fact that the common framework of Diagram 1 can account for the points of view of 97 per cent of Malayans and Australians with only 75 per cent of the possible orders suggests that despite these difficulties the points of view of the two groups are not entirely incongruent. Whether or not they are perceived as congruent is a matter which will be discussed below.

It was found that, for the Australian *S*s, the Lewinian idea of valences and strong boundaries could be used to subdivide the 18 areas of Diagram 1 into the four areas in which saints were placed last and 14 areas in which saints were not placed last. This subdivision also separated those areas in which Malayan *S*s were significantly less well represented. A weaker boundary separating those who preferred heroes to artists from those whose preferences were in the opposite direction provided a contrast between the identifications of men and women in the two cultures, *i.e.*, Australian men and Malayan women tending to identify with heroes. However the relationship for the Australian *S*s was complicated by the existence of a strong boundary.

The possibility of a distortion in the perceived arrangement of the stimuli was studied using contrasting groups—those who rejected saints and those who identified with them. Significant differences were found in the perceived difference between the stimuli saints and scholars for the two groups as well as between saints and artists. These differences were reflected in the different arrangements of stimuli given in Diagram 2. Significant distortion was thus established. When these arrangements are compared with the one given in Diagram 1 it is noted that those who placed saints last and were behind the strong boundary saw the stimuli arranged in such a way that the points of view of more than 40 per cent of their fellow students and 55 per cent of Malayans would not be accounted for. The corresponding figures for those who place saints first are of the order eight per cent for both groups.

The analysis revealed that 35 per cent of the Australian students placed saints last whereas only six per cent of Malayans did so. More significantly these Australian subjects saw the stimuli arranged in a way that would make it impossible for them to appreciate the points of view of 40 per cent of their colleagues and 55 per cent of the Malayan *S*s. Sampling bias may well have influenced these figures considerably, but is unlikely to have distorted the results to this extent. In any case it is the university student who is likely to have more contact with Malayans in his future career than those not at university so that his attitude is worthy of special study.

## F. Conclusion

The results presented here have shown the value of applying a combination of the recently developed multidimensional scaling methods. Unfortunately these methods have not been developed for a sufficient time for their application to be a matter of routine. It is hoped that this article will encourage other workers to use them. The unfolding method explores the possibility of detecting some regularities in conflicting points of view whereas the multi-

dimensional scaling methods explore differences in the perceptions of stimuli by groups which are relatively homogeneous in themselves, but differ widely from one group to another in their preferences.

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## APPENDIX I
### Table of the Basic Data

| No. of times chosen | | | | Valence measures | | | | Frequency Malaya | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Aust. | | Mal. | | Ch. | | I. | |
| Sa. | Sch. | H. | Ar. | Saints | Scholars | Heroes | Artists | M | F | M | F | M | F | M | F |
| *0 | 1 | 2 | 3 | .25 | 0 | .75 | 1.0 | 0 | 4 | 0 | 1 | 0 | 1 | 1 | *0 |
| *0 | 1 | 3 | 2 | 0 | 0 | 1.0 | 1.0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | *1 |
| 0 | 2 | 1 | 3 | 0 | .93 | .66 | .87 | 7 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2 | 3 | 1 | .31 | 1.0 | .85 | .54 | 8 | 5 | 1 | 2 | 2 | 3 | 1 | 1 |
| 0 | 3 | 1 | 2 | .03 | .97 | .50 | .84 | 15 | 17 | 1 | 1 | 5 | 4 | 2 | 0 |
| 0 | 3 | 2 | 1 | 0 | 1.0 | 1.0 | .32 | 16 | 6 | 2 | 6 | 5 | 2 | 1 | 1 |
| 1 | 2 | 0 | 3 | .83 | .83 | .17 | 1.0 | 2 | 4 | 5 | 0 | 10 | 1 | 4 | 1 |
| 1 | 3 | 0 | 2 | .48 | .96 | .44 | .93 | 9 | 18 | 4 | 2 | 9 | 12 | 9 | 3 |
| 2 | 1 | 0 | 3 | .50 | .50 | .50 | 1.0 | 2 | 0 | 0 | 1 | 0 | 2 | 1 | 1 |
| 2 | 3 | 0 | 1 | .88 | 1.0 | .50 | .75 | 4 | 4 | 6 | 9 | 13 | 9 | 2 | 2 |
| 3 | 1 | 0 | 2 | 1.0 | .25 | .25 | .25 | 0 | 4 | 2 | 1 | 4 | 6 | 6 | 0 |
| 3 | 2 | 0 | 1 | .94 | 1.0 | .29 | .82 | 5 | 12 | 9 | 0 | 20 | 23 | 12 | 5 |
| *1 | 0 | 2 | 3 | 1.0 | 0 | 1.0 | 1.0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | *0 |
| *1 | 0 | 3 | 2 | — | — | — | — | — | — | 0 | 0 | 0 | 1 | 0 | *1 |
| *2 | 0 | 1 | 3 | — | — | — | — | — | — | 0 | 1 | 1 | 0 | 0 | *0 |
| *2 | 0 | 3 | 1 | 1.0 | 0 | 1.0 | —.33 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | *2 |
| 3 | 0 | 1 | 2 | 1.0 | .50 | .75 | 1.0 | 0 | 4 | 1 | 0 | 0 | 0 | 2 | 2 |
| 3 | 0 | 2 | 1 | 1.0 | .66 | .83 | .83 | 3 | 3 | 2 | 1 | 1 | 9 | 1 | 5 |
| 1 | 2 | 3 | 0 | .89 | 1.0 | 1.0 | .44 | 2 | 7 | 5 | 3 | 6 | 6 | 3 | 5 |
| 1 | 3 | 2 | 0 | .50 | .75 | 1.0 | .25 | 2 | 2 | 8 | 8 | 10 | 21 | 6 | 1 |
| 2 | 1 | 3 | 0 | 1.0 | .66 | .66 | —.33 | 1 | 2 | 4 | 3 | 5 | 10 | 8 | 6 |
| 2 | 3 | 1 | 0 | 1.0 | 1.0 | .75 | .25 | 3 | 1 | 5 | 1 | 2 | 21 | 6 | 1 |
| 3 | 1 | 2 | 0 | .93 | .82 | .96 | .46 | 11 | 17 | 3 | 11 | 5 | 27 | 10 | 12 |
| 3 | 2 | 1 | 0 | 1.0 | .87 | .93 | .47 | 8 | 7 | 7 | 12 | 10 | 30 | 15 | 19 |
| 2 | 2 | 2 | 0 | .80 | .80 | 1.0 | .80 | 1 | 4 | | | | | | |
| 0 | 2 | 2 | 2 | .33 | 1.0 | 1.0 | 1.0 | 2 | 1 | | | | | | |
| 1 | 1 | 1 | 3 | 0 | 0 | 1.0 | 1.0 | 0 | 1 | | | | | | |
| 2 | 1 | 2 | 1 | 1.0 | 1.0 | 1.0 | 1.0 | 0 | 1 | | | | | | |
| 1 | 3 | 1 | 1 | 1.0 | 1.0 | 1.0 | 1.0 | 0 | 1 | | | | | | |
| 2 | 2 | 0 | 2 | 0 | 1.0 | 0 | 1.0 | 0 | 1 | | | | | | |
| 3 | 1 | 1 | 1 | 1.0 | 1.0 | 1.0 | 1.0 | 0 | 1 | | | | | | |
| | | | | | | | | 104 | 139 | 65 | 64 | 108 | 190 | 90 | 69 |

* The starred orders are not accounted for by Diagram 1.

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# THE DEVELOPMENT OF UNIVERSAL CRITERIA FOR THE MEASUREMENT OF THE HEALTH OF A SOCIETY*[1]

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## A. DEVELOPMENTAL PROGRAM

Is there a way in which we could measure the degree of maturity of a society, obtain comparative ratings of the level of adjustment of societies? Could an objective scale be formed to determine how "healthy" a society is, relative to other societies? The purpose of this paper is to develop such a scale through the use of the concept of ego strength.

Simply—ego strength refers to one's ability to cope with the problems of reality, to adequately and directly deal with problems which arise. From another viewpoint, Dollard and Miller equate ego strength with strength of character (6, p. 63). Fenichel (9), in the same line of thinking, defines character as: "the ego's habitual modes of adjustment to the external world, the id, and the superego, and the characteristic types of combining these modes with one another."

The actual relation between ego strength, personality (character), and adjustment-frustration has been carefully studied by Erikson (8). He presents examples which illustrate the inability of the particular subjects to adequately deal with certain stressful situations in which they find themselves. The resultant mental breakdown, Erikson explains, is due to the malfunctioning of one or more of the three basic processes which make up the composite personality. These are: the somatic process, the ego process, and the societal process. Since we are going to consider the "character" of whole societies rather than the position of the individual in the societal process, the third aspect of Erikson's personality structure can be eliminated. I think it is also reasonable to maintain that the somatic aspect can be de-emphasized in this study, since it refers to the physical aspect of a particular individual, and this factor is relatively unimportant when a total society is being observed (under normal

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conditions). Thus, we are left with the ego factor, and, as we shall see, this aspect can be meaningfully translated into societal terms.

Erikson supports this conclusion by stating that any society

> cannot afford to create a community of wild eccentrics, of infantile characters, or of neurotics. In order to create people who will function effectively, . . . [a] culture must strive for what we vaguely call a "strong ego" in its majority (8, p. 160).
>
> Ultimately, children become neurotic not from frustrations, but from the lack or loss of societal meaning in these frustrations (8, p. 222).
>
> To understand this, we must now approach the whole matter of childhood and society from another angle entirely. We must temporarily *take the individual ego as the apparent measure of all things, somatic and social* (8, p. 160, italics are mine).

In addition, ego strength and mental health are very closely related. An ego strength scale would therefore measure the degree to which an individual's behavior and attitudes are in keeping with the realities of the objective situation. Such behavior is what we would characterize as realistic, mature, effective; and a society manifesting such behavior could be described in the same way. Fromm's "sane society" (13) is actually conceived in terms of healthy, mature functioning, but as one might expect, it would be difficult to *measure* the degree of "saneness" of a society.

Parsons presents an analysis of social systems based upon function requisites (29, p. 136). It is stated that the functional problem facing a society is that of minimizing disruptive (or disintegrative) behavior and the motivation to it, for when considering events, feelings, or beliefs "in terms of functional significance relative to the social system, the significance of an action or class of them is to be understood not directly and primarily in terms of its motivation but of its actual or probable consequences for the system" (29, p. 29).

Levy states that "if one is interested in the interrelationship of different structures or the operation of a given structure, the concept of function must enter the discussion" (26, p. 60). Levy then develops the concepts of eufunction and dysfunction for use in relation to problems of adjustment and maladjustment in the study of societal units (26, p. 76). "Functions are those observed consequences which make for the adaptation or adjustment of a given system; and dysfunctions, those observed consequences which lessen the adaptation or adjustment of the system." (Notice the relation of these concepts to our definition of ego strength on the preceding page.)

But while this study is based on the functional requisites, it is not concerned with the functional requisites themselves as much as the way in which the society expresses and provides for the fulfillment of these functional requisites.

Therefore, in order to measure the degree of healthy functioning of a society, we shall use the concept of ego strength.

In developing an ego strength scale to measure the degree of health of a society, there are two important considerations: whether the method used to rate ego strength is operational and whether the behavioral criteria are meaningful as measures of ego strength as it has been defined. While there can be no complete assurance that these considerations have been met, I feel that by combining the results of empirical and theoretical studies, we shall have a sound basis for believing that we have an operational and meaningful measure of ego strength. The scale, therefore, is going to be formulated according to the requirement that *each variable used in the measurement of ego strength has* both *empirical* and *theoretical support.*

There have been several empirical studies which, to one degree or another, involve the concept of ego strength.

Kreinheder (25) used results of Rorschach testing and psychiatric diagnoses as criteria of the level of personality adjustment and compared these results to measures of reality content. The study was based upon the hypothesis that "the degree of discrepancy between personal reality and objective reality yields a measure that is relevant to an individual's total adjustment." The conclusions were that: (*a*) objective and reliable tests of reality contact can be devised; (*b*) such tests possess a validity that extends beyond the specific conditions of measurement; (*c*) strength of the reality contact is related to the general level of adjustment.

Notice that Kreinheder has considered both Rorschach results and also the factor of mental health (as measured by psychiatric diagnoses) in his ratings of adjustment.

Other studies support the linking of mental health with the level of adjustment. Trehub (37) found that the degree of "ego disjunction" is positively related to the degree of psychopathology. Hoover (18) administered a reality test and found a "stable" relationship between reality contact and general psychological adjustment. And Thomas (36) has verified tests based on the concept that ego strength essentially refers to the potential for mental health. "This potential implies a relative freedom from symptomatology of a non-organic sort, and a capacity for effective, goal-oriented behavior which meets, in general, with social approval" (36).

The particular empirical measure of ego strength that is most relevant to this study was developed along the same line of thought—namely, under the assumption (and in accordance with the conclusion reached by Hora (19)) that mental health, *and the ability to acquire or lose mental health,* depends

on the strength of the ego. And Dollard and Miller point out that *the stronger the ego of a mental patient, the better his prospects for recovery* (6, p. 236).

With these ideas of the relationship between ego strength and mental health in mind, we can better understand the rationale behind the development of an ego strength scale by Barron (4).

### B. The Barron Ego Strength Scale

Barron reports "the development and cross-validation of a scale which was originally designed to predict the response of psychoneurotic patients to psychotherapy."

A sample of psychoneurotic patients was divided into two groups: those who were judged (by two skilled therapists not directly involved in the therapy itself but having a thorough knowledge of the course of the therapy) to have clearly improved, and those who were unimproved. The reasoning behind this separation of the clinical sample into two groups is that if a person has developed a personality illness so that he is "neurotic"—unable to adjust—he then has a weak ego by definition. However, if he responds favorably to treatment, his ego is stronger than the ego of patients who do not respond.

The subjects answered a variety of subjective questions about their feelings, values, and past experiences, and the scale was developed on the basis of significant correlations of these items with the rated improvement of the patients. A significant difference (well beyond the .01 level) was found when the improved and unimproved groups were then scored on the scale. The items of the scale were then arranged into the following related groups of similar content:

1. *Physical Functioning and Physiological Stability*—i.e. (in terms of high ego strength) good physical health, physical strength, lack of awkwardness, good appetite.
2. *Psychasthenia and Seclusiveness*—i.e., ability to share experiences, tell about oneself, not worrying, able to resolve problems.
3. *Attitudes Towards Religion*—i.e., regular participation, lack of unquestioning belief, lack of religious "experiences."
4. *Moral Posture*—i.e., aggressive against evil, innovative, able to forgive, not submissive, attracted by members of the opposite sex, not afraid of sex, sadistic tendencies (not habitual) towards loved ones.
5. *Sense of Reality*—i.e., lack of strange and peculiar experiences and thoughts; lack of hallucinations, catelepsy, hypochondria, etc.
6. *Personal Adequacy, Ability to Cope*—i.e., not giving up or being per-

suaded, able to stick to a job, alertness and endurance, utilitarian orientated, desire to know and communicate knowledge.

7. *Phobias, Infantile Anxieties*—i.e., not afraid of things that are harmless.

8. *Miscellaneous*—i.e., like of science, strict upbringing, lack of permissiveness.

The general characteristics of high ego strength are therefore: good physical functioning; spontaneity, ability to share emotional experiences; conventional religious membership, but nonfundamentalist and undogmatic in religious beliefs; permissive morality; good contact with reality; feelings of personal adequacy and vitality; and physical courage and lack of fear.

The general characteristics of weak ego strength are: many and chronic physical ailments; broodiness, inhibition, a strong need for emotional seclusion, worrisomeness; intense religious experiences, belief in prayer, miracles; repressive and primitive morality; dissociation and ego-alienation; confusion, submissiveness, chronic fatigue; and phobias and infantile anxieties.

The scale was tested through the study of one clinic sample *and two nonclinic samples.* Then descriptive adjectives of high and low scorers on the scale were obtained from objective and skilled observers. Those adjectives which showed a statistically significant difference between high and low scorers were:

For high scorers—active, alert, adventurous, determined, independent, initiative, outspoken, persistent, reliable, resourceful, responsible.

For low scorers—affected, dependent, effeminate, mannerly, mild, inhibited.

Further verification of the scale was obtained through: a positive correlation of the scale with standardized measures of intelligence, due to the proposition that "ego-determined behavior is what we are accustomed to calling intelligent behavior"; similar meaningful correlations to such facets of personality as degree of tolerance, rigidity, and maladjustment (general factors of psychopathology); further testing of additional groups of both psychoneurotic patients (in terms of their rated improvement) *and of normal group samples* (so the scale has been verified through significant correlations of the same items by the same testing procedure on "normal" people).

As a result of this work, Barron suggests that "what is being measured is a general factor of capacity for personality integration, or ego strength. . . . the prediction scale seems to indicate . . . that these strengths are of the sort that are generally ascribed to a well-functioning ego, and that it is latent ego-strength which is the most important determinant (within the patient) of response to brief psychotherapy." The scale is "useful as an assessment device in any situation where some estimate of adaptability and personal

resourcefulness is wanted. It appears to measure the various aspects of effective personal functioning which are usually subsumed under the term 'ego-strength'."

Wirt (40), Ends and Page (7), Taft (34), Tamkin and Klett (35), and Grosz and Levitt (16) have done studies which test the validity of the scale; their results all confirm Barron's predictions. Grosz and Levitt, for example, administered the Barron ego strength test before and after inducing anxiety in subjects. They concluded that the Barron scale "is genuinely measuring ego-strength" (16, p. 283). Ends and Page also found a direct, constant, and significant relationship between the ego strength scale and measures of adjustment. (This would be predicted from our definition of ego strength.)

However, a close examination reveals that Barron's scale is not, as it stands, fully adequate to measure the degree of health *of a society*. Some of the items are relatively meaningless when they are translated into societal terms; some of the categories are not well formed since distinctly non-related items are sometimes within the same category; and also certain items which would be indicative of ego strength and healthy functioning (in societal terms) are not present.

We shall take all of the above considerations into account in developing a measure of the health of a society. For example, in regard to the first point, the category "Physical Functioning and Physiological Stability"—which includes factors of health, strength, awkwardness, and appetite—may be meaningful in our society where the limitations of the physical environment have been largely conquered, and a stable food supply, widespread sanitation measures, and effective medical treatment prevents physical deficiency and malfunctioning in the general population. But in other societies, where technology is not as far advanced and the physical environment may be much harsher (e.g., in the tropics), the general population may manifest poor health or lack of stamina, and yet this would not necessarily be an indication of poor adjustment of the society to environmental conditions (*i.e.*, low ego strength). Awkwardness could likewise be a manifestation of a widespread genetic character in the population rather than an indication of low ego strength. These considerations indicate the difficulty of applying all of Barron's criteria, as they stand, as a *universal* measure of ego strength, either on a personal or societal level. Can one not have a frail body and a strong ego? Is not one's body part of the situation, as far as ego functioning is concerned?

For the moment, I would like to point out that Barron's scale is a poten-

tially useful set of criteria which has been validated by other studies, and its results present strong empirical evidence which, in conjunction with theoretical criteria, will give a great deal of support to our development of universal criteria for the measurement of the health of a society.

### C. The Empirical-Theoretical Link

Alper (3) has bridged the gap between empirical and theoretical studies by selecting subjects on the basis of theoretical criteria of ego strength (in terms of healthy functioning) and then giving them tasks which tested the strength of their ego. The theoretical criteria were based on Murray's (28) conceptualizations of one who knows what he wants to do and has the capacity realistically to do, and who does it. Such healthy, effective functioning is supported by.:

1. *High conative conjunctivity*—the ability to organize one's efforts, to make plans and to follow them, to force drives into an efficient pattern, ambitious.
2. *High need for dominance and recognition*—to seek to control the behavior of others, to lead others, to get others to co-operate.
3. *High need for affiliation, diffuseness*—to be friendly to almost everyone, to enjoy large gatherings of diverse acquaintances.
4. *High need for deference and compliance*—to be co-operative and obliging, responsive and respectful to superiors, to accept suggestions and advice gracefully.
5. *Low neurotic tendencies*—absence of phobias, anxiety, obsessions, psychosomatic disorders.
6. *Low on ego-ideal intragression*—to feel humiliated and ashamed after failure, to be burdened by feelings of inferiority.
7. *Low on dejection, pessimism*—to worry about one's shortcomings, to recover slowly from disappointment.
8. *Low on need for rejection*—to reject things, persons, or ideas alien to personal interests.
9. *Low on need for seclusion and solitude.*
10. *Low on need for autonomy and resistance*—to rebel against dogmatic views or standards.

"These are the personality characteristics of the Strong Egos who, unhampered by neurotic anxieties and feelings of inferiority, are realistic in a failure situation" (3, p. 115). In any situation, strong egos generally manifest high frustration tolerance.

Alper then studied the selective recall of completed vs. incompleted tasks

according to the premise that the direction of such recall is based both upon the personality structure of the individual and upon the prevailing conditions —*i.e.*, conditions where self-esteem is objectively threatened vs. conditions where self-esteem is not involved. Correlations between the experimental and personality data revealed distinct differences between performance and personality characteristics with definite (and opposite) personality syndromes for strong vs. weak ego individuals. Strong egos recalled more incompleted tasks in the nonstressful situation and more completed tasks in the self-esteem threatening setting. Weak ego individuals showed the reverse pattern.

A second experiment verified these stated relationships with statistically significant differences.

### D. Ego Strength and Relevant Theory

We now come to the theoretical conceptualizations which have relevance to our formulation of a societal measure of healthy functioning.

Many theorists have presented their views concerning the constituents of the well-adjusted, mature, healthy personality—able to realistically cope with the problems which confront him—and "a strong ego is the agent of healthy personality" (22, p. 288). The healthy person is one who is able to satisfy his needs within the normative structure of his society.

Freud advocated several goals (in connection with psychotherapy) in his conception of normality or health: the capacity for love and for work ("lieben und arbeiten"), the strengthening of the ego, making the unconscious conscious, and the establishment of genital primacy (22, p. 8). These goals have been more explicitly stated in the writings of Abraham (1, chapt. 25), Reich (31, pp. 164-170), and Jones (21).

I. To Freud, the genital character is the fully matured and developed healthy personality, and he advocated the establishment of genital primacy where sexuality is not blocked by guilt, anxiety, or other factors. "The mature or genital personality is the culmination of the sequence of psychosexual stages of development. Adequate heterosexual adjustment is the *sine qua non* of the genital character" (38, p. 166). Such adjustment is indicated by full and complete non-neurotic satisfaction through genital orgasm in heterosexual relations and the utilization of sublimation. "Emotions, instead of being reacted to by the use of ego defenses, are thus used constructively by the ego" (38, pp. 166-167). Also, the effects of any one psychosexual stage are not dominant.

II. Pregenital desires are sublimated and/or gratified in forepleasure acts. Infantile sexual strivings (anal, oral, and phallic) are not repressed but

rather sublimated. In addition, they can be directly satisfied in adult sexual activities as part of sexual play which does not become an end in itself.

III. The Oedipus complex is outgrown. The person has overcome his mixed feelings towards his parents and feels friendly affection for them, and for people in general.

IV. The ego is free from constant conflict with the id, and can therefore engage in rational thinking and rational action unencumbered by anxiety and thwarted sexuality. In other words, "the ego is so strengthened as to be relatively stronger than other agencies of personality (id, superego) and in relation to the demands of others and the stresses of external reality" (22, p. 9).

V. The person can feel pleasure and pain more fully, since he is not obliged to repress his feelings and impulses.

VI. In addition, there are further "characteristics [which] may be regarded as indications that a person has genuinely grown out of the conflicts of his childhood. They include the capacity to do productive work, unencumbered by needs to compensate for inferiority feelings; freedom from irrational guilt stemming from an overly severe, infantile superego; and the ability to "regress" without fear—to throw off dignity and pretense and to act spontaneously under appropriate social circumstances" (22, p. 9).

> *Probably the main determiner of all these traits* which characterize the genital character *is a strong ego, one sign of which is profound contact with reality.* In the average person, many fears and anxieties persist from childhood, and interfere with the person's capacity to function fully in the immediate present. When a person has attained genitality, most of these fears have been subjected to "reality-testing" and found to be unwarranted. Hence, the genital character is really a much freer person than the average, or normal individual. (22, pp. 9-10, italics are mine).

There are also the different behavioral indices of healthy personality—*i.e.*, some single trait regarded as an index of the health of the total personality—which have been postulated by various theorists. For example: Reich's "orgastic potency" (31), Blatz's "independent security" (5, chapt. 9), Sullivan's "non-parataxic interpersonal relations" (33, pp. 102-106), Adler's "social feeling" (2, pp. 30-32), Fromm's "productive orientation" (12, pp. 82-106), Horney's "self-realization" (20, chapt. 1), and Rank's "creativity" (30).

Maslow characterizes the "self-actualizing" person as one who fulfills his inherent potential (27, chapt. 12). Maslow then contrasted average and sick people with a sample of people whom he judged self-actualizing, and found that the self-actualizer had the following characteristics:

1. More efficient perception of reality and more comfortable relations with it.
2. Acceptance of self, others, and nature.
3. Spontaneity, in inner life, thoughts, impulses.
4. Problem centering: interested in problems outside himself; having some mission in life.
5. The quality of detachment: need for privacy.
6. Autonomy: independence of environment.
7. Continued freshness of appreciation.
8. Feelings of identification, sympathy, and affection for mankind as a whole.
9. Deep and profound interpersonal relations.
10. Creativeness.
11. Resistance to complete conformity with cultural standards.

To Fromm,

> The mentally healthy person is the productive and unalienated person; the person who relates himself to the world lovingly, and who uses his reason to grasp reality objectively; who experiences himself as a unique individual entity, and at the same time feels one with his fellow man; who is not subject to irrational authority, and accepts willingly the rational authority of conscience and reason (13, p. 275).

Fromm arrives at this conception of mental health and maturity by an examination of the basic human needs. But then he goes beyond the individual person in stating that mental health *"must be defined in terms of the adjustment of society to the needs of man"* (13, p. 72). An adjusted ("sane") society enables man to fulfill and express his basic needs. In a sane society,

1—"members have developed their reason to that point of objectivity which permits them to see themselves, others, nature, in their true reality, and not distorted by infantile omniscience or paranoid hate."

2—"members have developed to a point of independence when they know the difference between good and evil, where they make their own choices, where they have convictions rather than opinions, faith rather than superstitions or nebulous hopes."

3—"members have developed the capacity to love their children, their neighbors, all men, themselves, all of nature."

4—members "can feel one with all, yet retain their sense of individuality and integrity."

5—members "transcend nature by creating, not by destroying." (13, p. 357).

> A healthy society furthers man's capacity to love his fellow men, to work creatively, to develop his reason and objectivity, to have a sense of self which is based on the experience of his own productive powers. An unhealthy society is one which creates mutual hostility, distrust, which transforms man into an instrument of use and exploitation for others, which deprives him of a sense of self, except inasmuch as he submits to others or becomes an automaton. Society can have both functions; it can further man's healthy development, and it can hinder it; in fact most societies do both, and the question is only to what degree and in what directions their positive and negative influence is exercised (13, pp. 72-73).

There are a few more points to be considered before we can actually formulate the criteria for the measurement of the health of a society. A subtile problem concerns the use of cultural religious practices, attitudes, and experiences as indices of healthy functioning. Barron states that high ego strength is characterized by conventional religious membership, but nonfundamentalist and undogmatic in religious beliefs; low ego strength by intense religious experiences and belief in prayer and miracles. But there are no specific statements concerning religious behavior and beliefs in any of the theoretical conceptions of the healthy, adjusted personality; however, many of the theoretical criteria are distinctly related to religious attitudes and actions, since religion has a very definite bearing upon many of the activities, values, and thoughts of the people of any society. What is needed is a more explicit theoretical statement (to go along with Barron's criteria) to give us a greater understanding of how religious practices and philosophies can be used in the measurement of the health of a society.

Jung, who has a great deal of knowledge about both religion and psychic stability, states that religion aids psychic hygiene (23), and when the need for a religious orientation is ignored, a neurosis is likely to result (24).

Schaer points out that to Freud, "religion was an illusion, by means of which psychically weak or unbalanced persons attempted to make the hard facts of reality endurable. There can be no doubt that such an abuse of religion exists. But this is to say nothing about the nature of true religion. . . .

"Jung adopts a totally different view. . . . he refuses to accept the idea that religion is in itself a symptom of psychic morbidity. On the contrary, he sees in the religious function, one of the most important elements of the human psyche" (32, p. 213).

Jung stresses the point that the *really true religion must be born out of the fullness of life by a man experiencing his life actively and fulfilling all its tasks* (24). And an important point to note is that Jung's idea of true, un-

adulterated religion is very similar to what we mean by ego strength. But Jung does realize that religion, as it is practiced, is often far from his idea of true religion—that of the complete personality engaged in a living, psychically active encounter with the forces dwelling in the soul. We must therefore distinguish between "true" religion and modified or distorted forms.

Jung notes that much of religious symbolism and mythology is a projection of the unconscious onto the outer world, and "so long as the individual projects his unconscious into the world at large, he is incapable of building up any scientific knowledge of his environment. . . . a world disenchanted of spirits and demons can be known much more objectively than when unconscious contents are always standing between man and reality" (32, pp. 176-177).

Jung, therefore, is postulating the universal aim of religious experience, what he refers to as the "true" religion. The degree to which true religion predominates over religious expressions which are projections of the unconscious onto the outer world would indicate the degree of healthiness of a society. This conclusion is very much in keeping with Barron's criteria (which were just reviewed).

Note that in advocating true religion, Jung desires a world free of unconscious projections—a world in which man can have an objective, scientific knowledge of his environment. This brings us to our next point: that is, the degree of education, scientific reasoning, objective investigation as a measure of the healthiness of a society. Barron refers to this variable as the "desire to know and communicate knowledge"; more generally, this topic deals with perception of reality, creativity, and the like. The relation of this topic to healthy functioning is obvious.

It is not difficult to see the similarity between science and reality-testing. Both advocate a desire for objective truth and go about getting it in the same way. Education promotes a desire for truth and the use of reality-testing to satisfy that desire (22, p. 79). Freud (10) goes even further in saying that thinking, reasoning, intellectual activity, the scientific spirit, and the search for truth strengthen the ego.

In addition to what has already been said concerning the topic of sexual practices and attitudes towards sexual matters, Jourard presents the attributes of "healthy sexuality." They are: an accurate knowledge about sexual functioning, an attitude of acceptance toward sexuality, and the integration of sexuality with other values (22, pp. 129-130). "The individual with a personality-illness—neurosis, psychosis, or character-disorder—is fundamentally a person who cannot love" (22, p. 278).

The last two points to be considered concern the use of universal criteria of health for which there is no direct support, either from empirical or theoretical studies. This is primarily because the criteria have little meaning when judging the relative healthiness of functioning of individuals, but they should be extremely useful in judging the relative health of societies.

The first is the degree of drunkenness (vs. sobriety) present in a society. Since drinking facilitates a break with reality (9, pp. 379-380) and is "maladaptive" (6, p. 187), the drunkenness-sobriety variable should be a good measure of healthy functioning. In support of this line of reasoning, Jourard has pointed out how the need to drink enough alcohol to become intoxicated is "unhealthy," since the alcohol may relieve tensions in the short run and free the person from the anxiety or guilt which has been disturbing him, but nothing has been done to change the prevailing conditions responsible for the guilt or anxiety (22, p. 53). Fromm states that high rates of suicide, homicide, and/or alcoholism in a population are indicative of a lack of mental stability and mental health (13, p. 7). Especially relevant to the use of the drunkenness and suicide variables as indicators of ego strength are the following concepts (which have already been cited in connection with ego strength): Barron's personal adequacy, ability to cope; Murray's degree of pessimism; Freud's freedom from irrational guilt; Blatz's independent security; and Maslow's acceptance of self.

The last point is concerned with employing the modes of aggression prevalent in a society, and the degree to which they are used, as an ego strength variable. Greenwald has found the concepts of "normal aggression" and "neurotic aggression" to be very meaningful in his cross cultural study of patterns of aggression. He begins by referring to neurotic behavior as "behavior which is essentially unrealistic in that it is not adaptive to a given situation," while normal behavior refers to actions which are realistically adapted to a specific situation. Normal aggression is consequently defined as "aggression which is overt and directed at the environmental object which served to instigate the aggressive response. Any form of aggression which is not overtly directed at the instigator object will be labeled 'neurotic'" (15, p. 148).

Using these concepts of normal and neurotic aggression, Greenwald then thoroughly analyzes the four main forms of aggressiveness. He concludes that war-aggressiveness and aggressiveness in the punishment of crime may be classified as forms of neurotic aggression, while sorcery-aggressiveness and aggressiveness against crime contain mixed amounts of both normal and neurotic aggression (15, pp. 150-152).

Greenwald's conception of normality is very similar to certain aspects of our idea of ego strength, since both concepts are based upon the degree to which an individual is realistic in his approach to a given situation. Therefore, we would be justified in using the degree to which normal vs. neurotic forms of aggression exist in a society as an ego strength variable (and note that one of Barron's ego strength criteria is "aggressive against evil"). However, the point might be raised that any form of aggression is in itself an "unrealistic" means of settling disputes and conflicts. This does not appear to be a valid objection, for not only is aggressive action sometimes necessary to preserve the organism, but also aggressiveness is sometimes the only way in which a goal can be directly and/or realistically attained. Freud makes the additional point that

> When the superego begins to be formed, considerable amounts of the aggressive instinct become fixated within the ego and operate there in a self-destructive fashion. This is one of the dangers to health to which mankind become subject on the path to cultural development. The holding back of aggressiveness is in general unhealthy and leads to illness (11, p. 22).

## E. The Rating Scale

The one remaining task is to establish a rating scale in order to measure societies on the basis of the ego strength criteria. In order to do this, several additional points must be investigated.

Does a person having high ego strength play primarily an active or passive role in adjusting to his environment?

Hartmann believes that "adaptation is guaranteed, in both its grosser and finer aspects, on the one hand by man's primary equipment and the maturation of his apparatuses, and on the other hand by those ego-regulated actions which (using this equipment) counteract the disturbances in, and *actively* improve the person's relationship to, the environment" (17, p. 25, italics are mine).

This view concurs with Jung's concept of "true" religion which, Jung (24) stresses, must arise through a man actively experiencing the fullness of life. Note also that Barron found high ego strength associated with an active approach toward the resolution of problems.

Another point to be considered is the degree to which an activity or value is upheld. Maslow (27) has pointed out that "unhealthy needs, such as the *compulsive* need for safety, sexuality, job-success, approval by others, cruelty, etc., are derived from an insufficiency of gratification of healthy needs" (22, p. 54, italics are mine).

Jourard states that *excessive* hostility, whether rational or irrational, is an indicator of unhealthy personality (22, p. 102). In more general terms, Jourard has conceived of three variables which apply to the evaluation of behavior in terms of ego strength.

### 1. *Rigidity-flexibility*

Strong egos "possess the capacity to vary instrumental behavior when it is found that some one behavior pattern is not effective in achieving a goal" while "weak egos display rigidity in thinking and in instrumental behavior" (22, p. 289).

> A person with a strong ego is able to keep his self-structure in congruence with his real self, following threat, by making modifications and adjustments within his self-structure (22, p. 356).
>
> Stability of behavior requires a flexibility of response in order to preserve the functional equilibrium of the organism in the face of mutable situations (39, p. 55).

### 2. *Stress- and Frustration-tolerance*

"A strong ego displays the capacity to carry out goal-directed activity in spite of stress, strong needs, and emotions, without any disorganization of instrumental behavior. The weak ego is less able to tolerate frustration and stress. Under stress, the weak ego displays disruption in ongoing instrumental action and shows instead emotional behavior of some kind" (22, p. 289).

### 3. *Minimal Use of the Mechanisms of Self Defense (namely, repression, rationalization, projection, reaction formation, etc.)*

"The strong ego is able to face inner reality—his real self—without distortion, selection, or denial of what is perceived there. The weak ego will admit to himself and others only such thoughts, feelings, and wishes as are compatible with the social mores, or which are flattering to his self-esteem" (22, p. 289).

> Where positive, goal-directed behavior is quite flexible within certain limits, defensive behavior is not. Any interference with defensive behavor is apt to induce anger, anxiety, guilt, depression or other unwanted affects in the defensive individual. Defense mechanisms are like emergency measures; they are the crutch upon which the individual's security hinges, that is, the security of a person with diminished ego strength (22, p. 355).

The last point has to do with the question of autonomy and its relation to ego strength. Barron found the quality of independence associated with high

ego strength subjects; low ego strength subjects were dependent and inhibited. Maslow lists autonomy as one of the qualities of his "self-actualizing" person, and Jourard (22, p. 113) states that autonomy—"the possession of a high degree of skill and competence in many areas"—is an important factor which promotes ego strength.

Green has gone further in actually developing a scale which has been "applied successfully" in evaluating ego adequacy. "The scale makes possible an *approximate quantitative estimation* of the level of maturity characteristic of, and the degree of integration achieved among, the various functions of the ego" (14, p. 199). The following scoring guide is presented:

0—total inability to exercise the function.
1—function can only be exercised erratically or very briefly even with constant full support from others.
2—function can be exercised but only as long as constant full support or pressure from others is available.
3—function can be adequately exercised but occasional support from others is required.
4—function can be adequately and consistently exercised independently of support or pressure from others.

Notice that Green's scale is simply a measure of personal autonomy. The rating scale to be formulated here will incorporate all of the points which we have just considered. Four levels of general functioning will be defined, with mid-points between each level, resulting in a seven point scale. The scoring guide for the measurement of the health of a society is as follows:

1—passively accepts problems and requires support in adapting to them; manifests rigid, compulsive, excessive behavior; unable to tolerate frustration and stress without reacting violently; makes extensive use of defense mechanisms; ineffective in meeting problems.
2—. . . . . .
3—approaches problems only if solution is necessary and support is available; only partially rigid, compulsive, and excessive in behavior; able to tolerate only small amounts of frustration and stress; often uses defense mechanisms; usually ineffective in meeting problems.
4—. . . . . .
5—needs some help and stimulation in approaching problems; manifests some degree of flexible, variable, moderate behavior; able to tolerate frustration and stress but not for a long time or to a great degree; uses defense mechanisms occasionally; usually effective in meeting problems.

6—. . . . . .

7—actively and autonomously approaches problems; manifests flexible, variable, moderate behavior; able to tolerate a great deal of frustration and stress; makes minimal use of defense mechanisms; effectively meets problems.

### F. The Criteria for Measuring Ego Strength

We are now ready to formulate the actual criteria to measure the ego strength of a society, based upon the conclusions of both empirical and theoretical studies. The criteria are presented in terms of both individual behavior tendencies (personal aspect) and the attitudes and beliefs of the societal group (cultural aspect), for in the final analysis, the term society refers both to the activities of the individuals in the societal group and also to the factors (norms, values, beliefs) underlying the social organization and determining social (and individual) behavior. The criteria for rating are:[2]

*I. Scientific Approach toward Solving Problems vs. Magic*

A. Attitude toward reality (cause-effect vs. magic); attitude towards sickness (methods of treatment—sorcery, etc.).

B. General development of education and science—(desire to know, to communicate knowledge, to engage in "rational" thinking).

(Barron, Freud, Maslow, Fromm, Jung)

*II. Genital Primacy v. Sexual Inhibitions*

A. Permissive vs. repressive morality.

B. Capacity to love, degree of heterosexual adjustment.

C. Permissive vs. repressive attitude toward sexual activity of children.

(Barron, Freud, Reich)

*III. "True" Religion vs. Unconscious Projections*

A. Regular participation in religion, but nonfundamentalist and undogmatic in religious beliefs, vs. intense religious experiences and belief in miracles.

B. Incidence of visions, catelepsy, religious symbolism and mythology.

(Barron, Jung)

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[2] The above scale has been effectively applied to ethnographic reports in the Human Relations Area Files and in books and journals. The grouping of the sub-categories (*i.e.*, the lettered categories) with each other and into the seven main categories is based upon factor analysis after preliminary ratings.

*IV. Social Feeling (Non-parataxic Interpersonal Relations) vs. Seclusiveness*

—ability to share experiences, to trust, ability to forgive, degree of co-operation in activities, ability to give praise and encouragement in activities.

(Barron, Murray-Alper, Freud, Adler, Sullivan, Maslow, Fromm)

*V. Productivity, Degree of Utilization of Available Resources*

A. Ability to cope with environment, degree of utilitarian orientation, degree of efficiency.

B. Creativity, ability to resolve problems, resourcefulness, ability to innovate and invent.

C. Ability to stick to a job, degree of alertness and endurance.

(Barron, Murray-Alper, Freud, Rank, Horney, Maslow, Fromm)

*VI. Functional vs. Disfunctional (or Disintegrative) Activity*

A. Unusually high amounts of deviance or of conformity, degree of persuasibility.

B. Incidence of mental illness (neurosis, psychosis).

C. Incidence of crime, delinquency.

D. Normal vs. neurotic aggression—aggression against instigator vs. against a substitute object; aggressiveness against crime vs. war aggressiveness and aggressiveness in the punishment of crime.

E. Incidence of suicide.

(Barron, Murray-Alper, Freud, Maslow, Fromm, Greenwald)

*VII. Anxiety—Incidence of, and Modes of Resolution*

A. Unusually high amounts of optimism, pessimism, feelings of dejection; courage vs. fear; inhibited or excessive expression of emotions.

B. Incidence of irrational guilt, phobias.

C. Sobriety vs. drunkenness and drug addiction (tobacco, etc.).

(Barron, Murray-Alper, Freud, Blatz, Maslow, Fromm)

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# PERSONALITY STRUCTURES WHICH REJECT THE HUMAN FORM IN ART; AN EXPLORATORY STUDY OF CROSS-CULTURAL PERCEPTIONS OF THE NUDE—CUBAN VS. UNITED STATES* [1]

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## A. Introduction

The question of the subversion and destruction of public morals by freely circulated material considered by some individuals and groups as being obscene or pornographic, while others see the same material as artistically desirable and even psychologically valuable, has become a matter of increasing public concern in the United States. Some point to this material as being indicative of the decline of national morality and a syndrome of a disease which would bring about the fall of the Republic before the onslaught of totalitarian determination to best us. They fear that the basic institutions of the West are in danger in the current political and economic struggle with the Communist ideology and the social "decay" will hasten our end.

The problem for the United States revolves around the psychological and legal dilemma presented to a democratic country which attempts to resolve the difficulty inherent in objectively evaluating such visual, or literary, material. How does one measure material charged with setting up unhealthy images for the young and inexperienced with which they might pattern their behavior. The responsibility of the culture to transmit appropriate values is thus recognized, but the fear of many is that the method of control may destroy that which we hope to strengthen. One side calls for more rigid legal controls over all appeals to sensuality in the arts, while the other cites psychological studies of personality development and interpersonal relationships in the family and urges healthier sex attitudes on the part of parents and greater democracy between the sexes.

Morals and their symbolic representation via the arts are by nature lacking in objectivity of the sort which can be controlled and measured in a laboratory. They are therefore easily subjected to the personal biases of judges who

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lack a suitable scientific measuring instrument. We are therefore caught between the perceptions of judges which have been formed through the learned cultural variables to which they have been exposed during their childhood, with all their prejudices, while on the other hand we are beset with the legal problems inherent in a democracy with its cherished, hard-won freedom of the press and the arts. We do not contend that absolute license has ever characterized a truly democratic state however dedicated its citizens to political freedom. There are prized group values which do restrict individual license, but they have been incorporated into society in order to best serve the needs of the public as a whole. This has necessitated a constant readjustment over the years between freedom and public need in a healthy democratic society so as to reflect the dynamic forces, their interrelationship and their relative importance at any period.

Evaluating artistic material wherein the artist has deliberately concentrated upon the nude human form, has occupied the attention of censors throughout the world for untold hundreds of years. From the trial of Phryne in classic times, to the contemporary controversy over Henry Miller's "Tropic of Cancer" in the United States, the problem has always revolved around objective criteria for establishing the status of a work of visual (living or inanimate) art or literature. For these reasons we first investigated the relationship between personality structure and the reasons given for perceiving an accepted great work of art whose subjects included the nude human form (3). The examples of art were selected from the collections of the New York Metropolitan Museum of Art, the Louvre and other institutions of comparable reputation. The results clearly showed that there was a strong, statistically significant relationship between the personality rigidity of the observer as measured by a standard personality test, and the number of works of accepted great art considered to be obscene. The qualitative evaluation of the reasons given for considering the art as pornographic validated the criteria proposed for this purpose (1, 2). The projective technique used in this series of experiments, which also included the test of the relative effectiveness of authoritative statements on the perceiver's judgments, is familiar to all psychologists. We assumed that the standardization process which is required for all psychological test items had been accomplished for us with our pictures by a process validated by the test of time. The acceptance by the contemporary public of these pictures had not always been the conditions under which they started their public careers. In addition, museum location, evaluation by accepted authorities and governmental designation as national treasures were all supporting factors; the pictures were not pornographic.

The reason for this study was to see if the criteria validated for measuring pornography on an American population would be repeated by a population with a Latin culture. Furthermore, would the relationship between personality rigidity and perception of pornography in accepted great art be as true for Cubans as for Americans.

## B. Method

The instrument used to measure the extent of personality rigidity through questions concerning political views, human behavior and culturally determined concepts of morality was the California *F* Scale of Adorno, Frenkel-Brunswik and others (1). *S*s completed the *F* Scale and were then asked to view and evaluate the series of pictures chosen to include single nude studies, nude women in company with clothed men as well as several nudes of the same sex. In addition, we also chose pictures which destroyed the relationship of the parts of the body and accentuated sexual areas.

For purposes of comparing the influence of cultural differences which are most impressionable during the dependant years of infancy and childhood, a similar experiment was performed with a group of *S*s who were attending the University of Havana, Cuba, in June 1959. All materials and directions were translated into Spanish and the procedure in the original experiment was followed. The pictures used were also those presented to the student population in the United States and were: 1. Anders Zorn, Three Graces, etching, 2. Modigliani, Recling Nude, 1918, oil, 3. Gaugin, Women with Mangoes, oil, 4. Picasso, Woman Dressing Her Hair, oil, 5. Peterich, Reposing Boy, sculpture, 6. Volkmann, Seated Man, sculpture, 7. Chabas, September Morn, oil, 8. Modigliani, Nude 1922, oil, 9. Hildebrand, Male Figure, sculpture, 10. Fouquet, Virgin and Child, oil, 11. Ingres, Odalisque, oil, 12. Manet, Olympia, oil, 13. Manet, Picnic on the Grass, oil.

It was expected that *S*s in a Latin culture, with stronger home supervision and less opportunity to assert their independence from parental authority, especially the women, than *S*s in the United States, would more strongly reflect this cultural frame of reference. Their scores would not only be higher than *S*s in the United States, reflecting greater personality rigidity, but consequently they were also expected to judge more pictures as pornographic than their fellow students in another culture. This would reflect the stronger position of the father in Cuban homes.

A Cuban-born United States citizen, a student of psychology, upon returning home for a visit secured permission to conduct the experiment with *S*s at the University of Havana. Provided with the necessary forms and pictures

he managed to secure 148 complete protocols of both *F* Scale and viewing of all 13 pictures. There were 44 males and 104 females in the group. The ages for males ranged from 18 to 40 with a median of 22, while the range for women was from 16 to 45 with a median of 23. Eleven of the women were married and 34 were graduate students. Only one of the men was married and 10 of them were graduate students.

## C. Results

The results of the experiment to determine the relationship between rigidity of personality and perceptions of pornography in great art did not affirm the close relationship found with *Ss* in the United States. The Pearson *r* showed a relationship of only 0.10, pure chance, and was not significant. The reflection of parental authority, expected in a Latin culture, did not appear in perceptions of the unidentified art as pornographic. *Ss* with high authoritarian scores did not necessarily see pornography in art nudes. This raises the question as to whether Cuban students displace their normal aggression on areas and subjects other than sex, unlike American students. Perhaps aggression, under contemporary political circumstances in Cuba, is more easily and with greater permissiveness by the culture, directed along political lines so that sexual repressions are not the major ones as they are in the culture of the United States. Thus Cuban university students are not equivalent in this respect to Americans.

There were a number of reasons given for judging a picture which were of great interest because Cuban *Ss* used the same criteria for justifying their decisions as American *Ss*.

Table 1 illustrates vividly that the reasons for or against considering a picture as pornographic were frequently projections of the observer of his own personality which influenced his perceptions.

## D. Conclusions

On the basis of the above results, the criteria which were proposed by Eliasberg (1, 2) for evaluating artistic material, and validated by Eliasberg and Stuart (3) have again demonstrated their applicability to the problem of establishing criteria for evaluating visual art. Typical case records in both an American and a Latin American culture, of a generally comparable population, show almost complete identity in both directions, with an exception for the few who used Marxist categories of class interests as references by which to judge the pictures.

Many *Ss* rejected nudity per se as being obscene but only because it did

TABLE 1
JUSTIFICATIONS FOR JUDGMENTS OF ACCEPTED WORKS OF GREAT ART

| Considered pornographic | Considered non-pornographic |
|---|---|
| *Picasso, "Woman Dressing Her Hair"* | |
| 1. I find it horrible because I do not understand it.<br>2. No opinion. Barbaric, stupid, false. If that is art I am tripe. Take it away. | 1. I do not understand it.<br>2. It has artistic value which sets it apart from all immoral thinking. |
| *Peterich, "Reposing Boy"* | |
| 1. It is somewhat or something abnormal or sick.<br>2. A man converted into a woman. | 1. The figure has a noble aspect. It is a child.<br>2. Her face denotes innocence and candidness. |
| *Modigliani, "Nude, 1922"* | |
| 1. The color makes it obscene.<br>2. The position of the body and the expression of her face are sensual and has a final or expectant attitude. | 1. I think it is a colorful painting—sensual but not pornographic.<br>2. A girl resting—does not have obscene gestures. |
| *Chabas, "September Morn"* | |
| 1. Reminds me of a picture in my mind—crude and obscene.<br>2. The artist's intent is to emphasize nudity, not the total picture. | 1. A beautiful painting. A true work of art in which the chastity of woman is demonstrated and revealed, but I do not like the position. |
| *Ingres, "Odalisque"* | |
| 1. She has a daring or defying look towards some man.<br>2. The woman covers her sexual parts and she believes that it is immoral to present the beauty of her body that is why it is pornographic. | 1. Great color, although one appreciates that there is a certain rigidity in the model.<br>2. It is natural and inspires admiration for its beauty. Does not inspire erotic feelings. |

not conform to Cuban custom, although they did recognize that it would be perfectly proper in other cultures.

The rigidity of young Cubans, caught as it was between the influences of Catholic family life on the one hand, and Communist pressure on the other, cannot be measured by the California *F* Scale under such circumstances. This constitutes one of the demonstrable limits to the use of this instrument originating in the social and political atmosphere of the times. The contemporary environment must be considered in any future use of this instrument because of its contents and format.

The lack of statistical correlation between perceptions of pornography in great art and high personality rigidity has several possible explanations. The Cuban population were all Catholic. Whether they were actively practicing their religion at the time is not known but their early learning experiences must have survived to some extent. The New York population was a mixture of several religious groups.

There may have been inadequate control over the conduct of the experiment by the experimenter since the motivation for participating may have been the authoritarian direction by the administration of the University with consequent resistance by *S*s to authority in general. Their hostility may have been displaced on the implications of the test questions with distortion of the answers so that they did not reflect their real beliefs.

Furthermore, Cuban students, like most students in Latin American universities, seem to be more mature in areas reached only later in life by those in the United States. Certainly their group activities have evidenced their immediate concern with political problems while American students have been most conspicuous in mass action by expending their energies by vicarious participation in spectator sports and similar activities. Sex does not appear to occupy the same importance in Cuban university life as it does on an American campus. Behavioral reactions to frustration seem to be more easily displaced by Cubans on politics than on sex.

The preceding goes to establish the common denominator of Western Civilization inasmuch as the approach to the evaluation of the acceptability of the nude in art is concerned. This allows us to establish, on the basis of a comparison of student attitudes under two different political systems and two different cultural traditions, general standards as to what can and cannot be considered pornographic in art.

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# ACCULTURATION IN EAST AFRICA. I. POLITICAL AWARENESS AND ATTITUDES TOWARD AUTHORITY*[1]

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## A. PROBLEM AND HYPOTHESES

This is the first of a series of four papers on the effects on the personality and attitudes of East Africans of Western culture as mediated by the British, largely through administrators and educators. At the time of the study in 1954-55, the *S*s were students in secondary schools in two provinces of British East Africa—the Buganda province of Uganda and the North Nyanza province of Kenya. All the students were acculturated to some degree. In Doob's terminology (2, p. 16), none were "unchanged"; none were wholly "changed" or assimilated; all were "changing." Some, however, were more changed or acculturated than others.

Two criteria of degree of acculturation were used. First, four schools in Uganda were selected to represent four levels of acculturation. Second, it was assumed that the people of Buganda province of Uganda were more acculturated than those of the North Nyanza province of Kenya. This assumption stems from differences in the traditional political organization of the societies in these two provinces.

Traditionally, the Ganda of Buganda had a centralized government with an absolute monarch (the Kabaka) and a hierarchy of chiefs appointed by him to represent his interests. The British used this hierarchical organization for their own administrative purposes. The societies in Kenya originally lacked centralization and local groups had considerable autonomy. In order to govern, however, the British imposed an administrative hierarchy upon

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[1] This research was conducted while the authors were attached to the East African Institute of Social Research, Makerere College, Kampala, Uganda, in 1954-55. It was part of an investigation of leadership, directed by L. A. Fallers and supported by a grant from the Carnegie Corporation of New York. The authors appreciate the help given in planning and executing the project by L. A. Fallers, and by their colleagues in the EAISR under the direction of Audrey I. Richards. They thank Gordon Wilson for his help with arrangements in Kenya, the East African Department of Statistics for help in tabulating the quantitative data, and Leonard W. Doob for his help and encouragement throughout. The analysis of the data was facilitated by Grant M-2713 of the United States Public Health Service, and by Gerald R. Miller, Roger F. McKinley, and J. Cooper Rose, to whom thanks are expressed.

the societies in North Nyanza similar to that of the Ganda (4). To the extent that the British could administer and thus introduce new forms of behavior through pre-existing channels it is assumed that acculturation would be facilitated, whereas to the extent that the administrative hierarchy itself was new, as in Kenya, it is assumed that acculturation would proceed more slowly.

At the outset, it was hypothesized that degree of acculturation has the following effects on personality and attitudes:

1. The more acculturated, either because discontent with the old made them seek, or because now they have adopted, new goals and values which can as yet be only imperfectly attained, are more frustrated than the less acculturated, and hence feel more hostile.

2. The more acculturated, feeling more hostile generally, direct more hostility than the less acculturated towards both traditional authority figures and the Europeans who are representatives of the new culture.

3. The more acculturated have more effective modes of h lling frustration and consequent aggression than the less acculturated.

4. In particular, the more acculturated are more flexible in handling the frustration implicit in a problem-solving situation than the less acculturated, relying less on ready-made or traditional solutions.

5. Since they may be assumed to believe that the solution to their frustrations lies in education, the more acculturated assign a higher value to education than the less acculturated and view teachers more positively.

6. The more acculturated differ from the less acculturated in regard to their attitudes towards parent figures, but this difference is less marked than other differences because parent-child relations may be expected to be more resistant to acculturation influences than other aspects of personality.

This present paper is concerned with the second hypothesis, and thus will consider attitudes toward authority and political awareness. The second paper deals with the major question of frustration and aggression, and thus is most pertinent to the first, third and fourth hypotheses. The third paper concentrates upon the fifth and sixth hypotheses—upon attitudes toward parents, teachers and education. An earlier paper (1) has dealt specifically with the fourth hypothesis. The fourth paper of the series is devoted to summary and discussion.

## B. Method

In this, the first paper of the series, the method will be presented more fully than in subsequent papers.

### 1. *Subjects*

The 355[2] *S*s were students in six secondary schools, four in Uganda and two in Kenya. The Uganda schools were selected to represent four levels of acculturation as follows:

*School A* ($n = 76$), most acculturated; near Kampala; most teachers British; emphasis on self-discipline and responsibility.

*School B* ($n = 50$), somewhat more acculturated than School *C*; near Kampala; Roman Catholic; most teachers "European"; emphasis on trade-training; more authoritarian in organization and discipline than School *A*.

*School C* ($n = 51$), somewhat less acculturated than School *B*; day-school in Kampala; all teachers African.

*School D* ($n = 34$), least acculturated; far from any city; all teachers African.

The tribal composition of the Uganda schools is mixed, although the majority of *S*s in all schools are Ganda, the predominant tribe in Buganda province.

The distinctions in degree of acculturation between these four schools rest on obvious differences in the contact they provide with British people and their beliefs, values and forms of behavior, chiefly through the teachers and the organization of the school and also through the location of the school in, near or away from a metropolitan center. In addition the more acculturated schools have a larger proportion of students in the upper grades who are older and who have been exposed longer to Western educational influence. The students may also differ because of selection factors, which, however, seem to coincide with the acculturation level of the school. Thus the most acculturated families in Uganda tend to send their children to the more acculturated schools—*A* or *B*, depending on religion—while the least acculturated tend to send their children to a country school, like School *D*.

The two Kenya schools seem indistinguishable from each other in regard to acculturation level. Both are located near an urban center (Kisumu), are staffed largely by British teachers, and emphasize trade-training. The major difference between the *S*s of the Kenya schools is one of tribal background.

*School E* ($n = 63$); all *S*s were Luo, a Nilotic society.

*School F* ($n = 81$); *S*s came from a number of different societies, nearly all from Bantu societies now classed together as Luyia, with very few Nilotics included.

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[2] Since the various tests were administered on different days, not all *S*s were present to respond to all tests. Consequently, the total *N*, as well as the *n*s of the different schools differ slightly from test to test.

### 2. *Tests*

A projective approach was used because, in the absence of tests designed for this East African population, it was believed that relatively unstructured stimuli and open-ended responses might yield valid data. Five tests and a factual questionnaire were administered. In addition to the Rosenzweig Picture-Frustration Test and an Einstellung test of the "water-jar" type developed by Luchins (3) as a measure of flexibility-rigidity, the following three instruments were designed or adapted for this study:

*a. A sentence completion test.* Many of the 18 items pertained to authority figures and matters likely to prompt statements relevant to attitudes toward authority. The degree of agreement between two coders for two schools was so high that a complete check of reliability of classification of the responses was deemed unnecessary.

*b. A thematic apperception test.* Five pictures were selected from the series developed by Wiener for use in Jamaica. Disagreement between two coders concerning the classification of the responses in two schools was resolved in consultation, and, indeed, all responses which were difficult to classify were discussed.

*c. A figure-drawing test.* After *S* had finished drawing a person according to the usual procedure, he was asked whether he had intended to portray an African or a European, and to label the drawing accordingly. He was then told to turn over the paper and draw another person, a European if he had previously drawn an African, or vice versa.

## C. Results

Chi square test was used to assess the significance of differences in distributions of responses between the schools. It must be assumed that the contribution made by each cell of a table to the final chi square can be used as a guide to the nature and direction of the differences. Those cells of a table in which the obtained frequency differs enough from the expected frequency to contribute 1.000 or more to the chi square total are shown in italics.

### 1. *Attitudes to Europeans*

*a. Sentence completion test.* Each response pertinent to Europeans, whether given to the item, "Europeans . . . ," or to another item, was classified as positive, negative, neutral or mixed, and then each *S* was similarly classified in terms of the preponderant trend of his responses, according to a detailed set of rules.

The distribution of attitudes to Europeans (Table 1) differed significantly

TABLE 1
SENTENCE COMPLETION: ATTITUDES TO EUROPEANS

| Attitude to Europeans | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Positive | *18* | *23* | 14 | 16 | 23 | 42 | 71 | 65 | 136 |
| Negative | *12* | *2* | *7* | *3* | 8 | 4 | *24* | *12* | 36 |
| Neutral | 17 | 9 | 7 | *12* | 30 | 32 | *45* | *62* | 107 |
| Mixed | *13* | 4 | *0* | *2* | 1 | 2 | *19* | *3* | 22 |
| Totals | 60 | 38 | 28 | 33 | 62 | 80 | 159 | 142 | 301 |

Acculturation levels (Uganda): $\chi^2 = 21.711$; $df$ 9; $p < .01$.
Uganda vs. Kenya: $\chi^2 = 17.70$; $df$ 3; $p < .001$.

with level of acculturation, according to both criteria. Within the Uganda group, the more acculturated were more frequently mixed or negative in their opinions and less frequently neutral than were the less acculturated, and the same was true of the Uganda sample as a whole when compared with the presumably less acculturated Kenya sample.

*b. Figure-drawing test.* Almost two-thirds of the total sample drew the European figure larger than the African figure (Table 2), and thus may be

TABLE 2
FIGURE-DRAWING: SIZE OF FIGURE

| Size of figure | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| African equal or larger | *18* | *24* | 17 | 9 | 30 | 34 | *68* | *64* | 132 |
| European larger | 55 | *25* | 32 | 24 | 28 | 45 | *136* | *73* | 209 |
| Totals | 73 | 49 | 49 | 33 | 58 | 79 | 204 | 137 | 341 |

Acculturation levels (Uganda): $\chi^2 = 8.511$; $df$ 3; $p < .05$.
Uganda vs. Kenya: $\chi^2 = 6.189$; $df$ 1; $p < .01$.

assumed to view the European as superior to or more dominant than the African. Within the Uganda group the relationship of relative size of the drawings to level of acculturation was non-monotonic; the two schools intermediate in acculturation level (especially School *B*) drew the European figure larger than the African relatively less frequently than either the most or least acculturated schools. The Kenya sample resembled the intermediate Uganda groups and differed significantly from the total Uganda sample in relatively less frequently drawing the European figure larger than the African.

Eighty-three per cent of the total sample drew an African figure first and thus may be judged to identify more readily with Africans than with Europeans (Table 3). In the Uganda sample the more acculturated more fre-

TABLE 3
FIGURE-DRAWING: FIGURE DRAWN FIRST

| Figure drawn first | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| African | 56 | *34* | *46* | 32 | 52 | 60 | 168 | 112 | 280 |
| European | *17* | *15* | 3 | *1* | 6 | 19 | 36 | 25 | 61 |
| Totals | 73 | 49 | 49 | 33 | 58 | 79 | 204 | 137 | 341 |

Acculturation levels (Uganda): $\chi^2 = 19.352$; $df$ 3; $p < .001$.
Uganda vs. Kenya: $\chi^2$ is not significant.
Schools E vs. F: $\chi^2 = 4.210$; $df$ 1; $p < .05$.

quently than the less acculturated drew the European figure first. The second criterion of a difference attributable to acculturation was not satisfied: the Uganda sample did not differ significantly from the Kenya sample. The Kenya schools, on the other hand, differed from each other; the Luo school ($E$) less frequently than the Luyia school ($F$) drew the European figure first.

*c. Attitude to Chiefs: Sentence Completion Test.* In the Uganda schools the more acculturated *Ss* were significantly more frequently negative in their attitudes to chiefs than the less acculturated and less frequently neutral or positive (Table 4). The same trends were apparent for the total Uganda

TABLE 4
SENTENCE COMPLETION: ATTITUDE TO CHIEFS

| Attitude to chiefs | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Positive | *3* | 4 | 4 | *6* | 9 | 15 | 17 | 24 | 41 |
| Mixed | 3 | 3 | *2* | 1 | 4 | 1 | 9 | 5 | 14 |
| Negative | *43* | 19 | *14* | *13* | 27 | 38 | 89 | 65 | 154 |
| Neutral | *11* | 12 | *8* | *13* | 22 | 26 | 44 | 48 | 92 |
| Totals | 60 | 38 | 28 | 33 | 62 | 80 | 159 | 142 | 301 |

Acculturation levels (Uganda): $\chi^2 = 21.141$; $df$ 6; $p < .01$.
Uganda vs. Kenya: $\chi^2 = 3.444$; $df$ 2; $p < .20$.

sample in comparison with the total Kenya sample, but below the level of statistical significance.

*d. Attitude toward Authority Figures: Thematic Apperception Test.* There were no significant differences between schools in regard to the total number of "authority" stories. When these stories were classified with respect to the type of action attributed to the authority figure, it was found that only one-sixth of the entire group described them in punitive action (punishing, reprimanding or threatening). The great majority presented them as non-punitive (commanding, directing, instructing or exhorting, or, in a very few cases, as protective or sympathetic). There was a not quite statistically sig-

nificant tendency for the more acculturated to perceive authority figures as punitive more frequently than did the less acculturated (Table 5). It may be noted that nearly all of the few perceptions of authority as protective (or sympathetic) occurred in the more acculturated groups.

TABLE 5
THEMATIC APPERCEPTION TEST: ACTION OF AUTHORITY FIGURE

| Action of authority figure | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Punitive | 12.8 | 9.8 | *4.1* | 2.5 | 6.6 | 5.7 | 29.2 | 12.3 | 41.5 |
| Commanding | 40.6 | 35.7 | 38.9 | 23.5 | 49.9 | 66.5 | 138.7 | 116.4 | 255.1 |
| Protecting | 7.9 | 1.0 | 0 | 0 | .5 | .8 | 8.9 | 1.3 | 10.2 |
| Miscellaneous | 2.7 | .5 | 0 | 0 | 0 | 0 | 3.2 | 0 | 3.2 |
| Totals | 64.0 | 47.0 | 43.0 | 26.0 | 57.0 | 73.0 | 180.0 | 130.0 | 310.0 |

Acculturation levels (Uganda): $\chi^2 = 3.732$; $df$ 3; $p < .30$.
Uganda vs. Kenya: $\chi^2 = 2.929$; $df$ 1; $p < .10$.

*e. Political Awareness: Sentence Completion Test.* Since items other than those specifically concerned with chiefs and Europeans evoked responses implying political awareness, all "political" responses were identified and then classified. In the Uganda schools, especially, political responses were remarkably frequent—significantly more frequent than in the presumably less acculturated Kenya group—although the more acculturated Uganda schools were not more politically aware than the less acculturated Uganda schools (Table 6).

TABLE 6
SENTENCE COMPLETION: NUMBER OF "POLITICAL" RESPONSES

| Number of political responses | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| 5 and over | 11 | 4 | 5 | 4 | 3 | 1 | *24* | *4* | 28 |
| 4 | 9 | 5 | 4 | *6* | 1 | 2 | *24* | *3* | 27 |
| 3 | *10* | 11 | 9 | 8 | 9 | 15 | 38 | *24* | 62 |
| 2 | 17 | 10 | 6 | 9 | 18 | 27 | 42 | 45 | 87 |
| 1 or none | 11 | 8 | 4 | 6 | 31 | 35 | *29* | *66* | 95 |
| Totals | 58 | 38 | 28 | 33 | 62 | 80 | 157 | 142 | 299 |

Acculturation levels (Uganda): $\chi^2$ is not significant.
Uganda vs. Kenya: $\chi^2 = 46.446$; $df$ 4; $p < .001$.

The headings of Table 7 summarize the system of classification of political responses, and also suggest the criteria for identification of a response as "political." *S*s were most frequently concerned with specific internal political or administrative matters, although perhaps this finding is exaggerated by the

fact that the item, "Many chiefs . . . ," specifically evoked such responses. Similarly the "miscellaneous" category is swollen by the inclusion of most of the non-neutral responses to the item, "Europeans . . . ." The other three categories in Table 7, however, represent a spontaneous expression of the nature of *S*'s political concerns.

TABLE 7
SENTENCE COMPLETION: NATURE OF "POLITICAL" CONCERNS

| Nature of political concerns | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Specific concerns | 19.2 | 9.6 | 8.1 | 6.8 | 28.4 | 30.6 | *43.7* | *59.0* | 102.7 |
| Active discontent | 13.2 | 4.6 | 3.8 | 5.0 | 6.1 | 3.0 | *26.6* | *9.1* | 35.7 |
| Service to country | 6.4 | 6.8 | 1.8 | 4.3 | 3.9 | 9.2 | 19.3 | 13.1 | 32.4 |
| "National" identification | 7.2 | 3.8 | 5.0 | 4.3 | 1.0 | 2.8 | *20.3* | *3.8* | 24.1 |
| Miscellaneous | 12.0 | 13.2 | 7.3 | 8.6 | 17.6 | 27.4 | 41.1 | 45.0 | 86.1 |
| Totals | 58.0 | 38.0 | 26.0 | 29.0 | 57.0 | 73.0 | 151.0 | 130.0 | 281.0 |

Acculturation levels (Uganda): $\chi^2$ is not significant.
Uganda vs. Kenya: $\chi^2 = 22.289$; $df$ 4; $p < .001$.

In comparison with the less acculturated Kenya *S*s, the Uganda *S*s as a whole more frequently expressed active discontent with the political *status quo* and also nationalistic identification, and they less frequently expressed concern with specific internal matters. The differences between the Uganda schools themselves were not statistically significant, but the most acculturated group (School *A*) showed relatively more active discontent than the less acculturated groups.

## D. SUMMARY

In this first of a series of four papers on the effects of acculturation on personality and attitudes, students in four Uganda secondary schools, chosen to represent four levels of acculturation, were tested on sentence completion, thematic apperception and figure-drawing tests, in regard to their political awareness and attitudes toward authority figures, especially chiefs and Europeans. These 211 *S*s in the Buganda province of Uganda were then compared with 144 *S*s in the North Nyanza province of Kenya who were assumed to be less acculturated.

The findings support the hypothesis that the more acculturated more frequently than the less acculturated feel hostile toward authority figures. The

findings suggested further that the more acculturated more frequently than the less acculturated tended to perceive authority figures as punitive, but were mixed in their opinions about authority. In comparison with the less acculturated Kenya sample, the Uganda sample were more aware politically, more actively discontent with the political *status quo* and more nationalistic in their identification. Non-monotonic relationships with degree of acculturation were found in regard to readiness to identify with the European and covert tendency to view the European as dominant. The significance of these findings will be discussed in the fourth paper of this series.

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# ACCULTURATION IN EAST AFRICA. II. FRUSTRATION AND AGGRESSION*[1]

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## A. PROBLEM AND HYPOTHESES

This is the second of a series of four papers on the effects of acculturation on the personality and attitudes of secondary school students in two provinces of British East Africa (2). Two criteria of degree of acculturation were used in the study: (*a*) four schools in the Buganda province of Uganda were selected to represent four levels of acculturation; and (*b*) it was assumed that the societies represented in the Uganda sample, because of the degree to which their traditional political structure facilitated the spread of acculturation influences, were more acculturated than the societies represented in the sample of students in two schools in the North Nyanza province of Kenya.

The present paper is concerned with two of the six guiding hypotheses:

1. The more acculturated, either because discontent with the old make them seek, or because they have now adopted, new goals and values which can as yet be only imperfectly attained, are more frustrated than the less acculturated, and hence feel more hostile.

2. The more acculturated have more effective modes of handling frustration and consequent aggression than the less acculturated.

## B. METHOD

The method has been described in the first paper of the series (1). Of the five projective tests that were administered, three yield findings pertinent to the hypotheses concerned with frustration and aggression: (*a*) a sentence completion test; (*b*) a special version of the Thematic Apperception Test; and (*c*) the Rosenzweig Picture-Frustration Test (2). The *S*s were 355[2] students in six secondary schools in Uganda and Kenya.

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[1] This research was conducted while the authors were attached to the East African Institute of Social Research, Makerere College, Kampala, Uganda, in 1954-55, and supported by a grant from the Carnegie Corporation of New York. The analysis of the data was facilitated by Grant M-2713 of the United States Public Health Service. Other acknowledgements are given in the first paper of the series (1), and express appreciation no less genuine for not being repeated here.

[2] Since the various tests were administered on different days, not all *S*s were pres-

## C. Results

### 1. *Thematic Apperception Test*

For both acculturation criteria, the more acculturated told significantly more "aggressive" stories than the less acculturated (Table 1). The very

TABLE 1
THEMATIC APPERCEPTION TEST: NUMBER OF "AGGRESSIVE" STORIES

| Number of aggressive stories | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| 2 to 4 | *17* | 7 | *3* | *1* | 5 | 5 | *28* | *10* | 38 |
| 1 | 28 | 20 | *12* | 9 | 20 | 25 | 69 | 45 | 114 |
| 0 | *24* | 21 | *32* | *19* | 36 | 50 | *96* | *86* | 182 |
| Totals | 69 | 48 | 47 | 29 | 61 | 80 | 193 | 141 | 334 |

Acculturation level (Uganda): $\chi^2 = 32.723$; $df$ 12; $p < .01$.
Uganda vs. Kenya: $\chi^2 = 6.182$; $df$ 2; $p < .05$.

infrequency of aggressive stories in the less acculturated groups may obscure any differences between groups in regard to sex of the aggressor, modification of aggression or identification with aggressor or victim, for no significant differences were found between groups for these variables.

### 2. *Sentence Completion Test*

*a. Sources of annoyance.* The most frequent source (Table 2) may be

TABLE 2
SENTENCE COMPLETION: SOURCES OF ANNOYANCE

| Source of annoyance | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Own failure | *9* | 4 | 2 | 2 | 5.5 | 4 | 17.0 | 9.5 | 26.5 |
| Aggression | *14* | 8 | *1* | 6 | 6.5 | 11 | 29.0 | 17.5 | 46.5 |
| Authority | 12 | 6 | *13* | *4* | 9.0 | 12 | *35.0* | *21.0* | 56.0 |
| Interpersonal relations | *6* | *14.5* | *2* | *11* | 14.0 | 16 | 33.5 | 30.0 | 63.5 |
| Phys. irrit. | 2 | 0 | 0 | 4 | 4 | 14 | *6.0* | *18.0* | 24.0 |
| Impersonal | 13 | 5.5 | *9* | *6* | 21 | 22 | *33.5* | *43* | 76.5 |
| Totals | 56 | 38.0 | 27 | 33 | 60 | 79 | 154.0 | 139.0 | 293.0 |

Acculturation level (Uganda): $\chi^2 = 32.723$; $df$ 12; $p < .01$.
Uganda vs. Kenya: $\chi^2 = 15.1038$; $df$ 5; $p < .02$.

described as "impersonal," which seems to imply no action directed towards *S* or the persons or objects with which he identifies and no frustration of

ent to respond to all tests. Consequently, the total *N*, as well as the *n*s of the different schools, differ slightly from test to test.

personal action; e.g. "What annoys me is to see people insulted." Also common were "interpersonal frustrations" of a non-aggressive, non-authoritarian sort; e.g. "What annoys me is to be kept waiting." Next most frequent, given by about one-fifth of the total group, were responses attributing frustration to authority figures or to the impersonal authority of the *status quo*. About 15 per cent gave responses implying that annoyance is caused by aggression directed by others toward *S* or toward persons or objects with which he identifies. Relatively rare were responses referring to *S*'s frustration because of his own failure or inability. Also uncommon were responses attributing annoyance to physical sources, e.g. flies, noise, heat.

Differences in acculturation were related significantly to the distribution of sources of annoyance, according to both criteria. The Uganda-Kenya comparisons, however, yield the clearest picture. The Uganda *S*s more frequently than the presumably less acculturated Kenya *S*s attributed annoyance to frustration by authority, to aggression directed toward themselves, or to their own failure or inability; they less frequently attributed it to impersonal or physical sources. Within the Uganda sample itself the same tendencies were manifest. The most acculturated group most frequently attributed annoyance to aggression directed toward themselves or to their own failure, and relatively infrequently attributed it to non-aggressive, non-authoritarian interpersonal relations. The least acculturated group was distinguished for the relative frequency of annoyance in interpersonal relations and infrequency of annoyance by authority. There are some irregularities, however, for School *B* resembled the least acculturated group in the frequency of being annoyed by interpersonal relations, while the less acculturated School *C* resembled the most acculturated group in frequency of being annoyed by authority.

*b. Fears.* The chief reason for considering the item ("My greatest fear . . .") relevant to frustration-aggression is that the most frequent response implies fear of aggressive threat: fear of aggression directed toward *S* or some object with which he identifies, fear of wild animals, and fear of natural phenomena such as earthquakes (Table 3). Although one-third of the fears were too idiosyncratic or rare to be classified, two additional types were fairly frequent: "educational" fears, including fear of failure or of not being able to proceed with higher education; and fear of sickness or death of a loved person or of *S* himself.

The less acculturated Kenya *S*s were more frequently afraid of aggression and less frequently afraid of educational failures or disappointments than were the more acculturated Uganda *S*s. In the Uganda schools, however, fears were not significantly related to level of acculturation.

TABLE 3
SENTENCE COMPLETION: SOURCES OF FEAR

| Source of fear | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Educational | *8* | 6 | 9 | 8 | 4 | 7 | *31* | *11* | 42 |
| Animals | 8.25 | 3 | 2 | 6 | 14 | 23.5 | *19.25* | *37.5* | 56.75 |
| Aggression | 4.5 | 3 | 1 | 1 | 9 | 10.5 | *9.5* | *19.5* | 29 |
| Natural phen. | 1.25 | 2 | 3 | 1 | 9 | 10 | *7.25* | *19* | 26.25 |
| Sickness | 11 | 7 | *2* | 5 | 10 | 12 | 25 | 22 | 47 |
| Political | 7 | 1 | 1 | 0 | 0 | 0 | *9* | *0* | 9 |
| Miscell. | 20 | *16* | 10 | 12 | 16 | 17 | *58* | *33* | 91 |
| Totals | 60 | 38 | 28 | 33 | 62 | 80 | 159 | 142 | 301 |

Acculturation levels (Uganda): $\chi^2 = 6.602$; $df$ 9; $p < .70$.
Uganda vs. Kenya: $\chi^2 = 34.694$; $df$ 3; $p < .001$.

*c. Wrongs.* The item ("It is wrong . . .") is considered to be relevant to frustration-aggression because of the frequency with which the total group considered both aggression in general and rebellion or lack of deference to authority figures to be wrong (Table 4). The most frequent classification

TABLE 4
SENTENCE COMPLETION: WRONGS

| Wrongs | Uganda schools A | B | C | D | Kenya schools E | F | Uganda total | Kenya total | Total group |
|---|---|---|---|---|---|---|---|---|---|
| Aggression | *11* | *3* | *1* | 4 | 15 | 17 | *19* | *32* | 51 |
| Dishonesty | 7 | 8 | 6 | 3 | 9 | 16 | 24 | 25 | 49 |
| Rebellion | 5.5 | 5 | 5 | 4 | 13 | 20 | *19.5* | *33* | 52.5 |
| Political | 6 | 3 | 1 | 4 | 2 | 0 | 14 | 2 | 16 |
| Religious | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 2 |
| Minor vices | 4 | 3 | 2 | 1 | 2 | 2 | 10 | 4 | 14 |
| Sexual | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 3 |
| Miscellaneous | 24.5 | 15 | 12 | 17 | 20 | 25 | *68.5* | *45* | 113.5 |
| Totals | 60 | 38 | 28 | 33 | 62 | 80 | 159.0 | 142 | 301 |

Acculturation levels (Uganda): $\chi^2 = 9.218$; $df$ 9; $p < .50$.
Uganda vs. Kenya: $\chi^2 = 19.241$; $df$ 3; $p < .001$.

of response for the total group was "miscellaneous," which included rarely mentioned wrongs against religious or sexual norms. The most frequent "moral" wrong was dishonesty (to lie, cheat or steal) but it occurred less frequently than aggression or rebellion.

Again only in the Uganda-Kenya comparison, but not within the Uganda sample itself, did the less acculturated consider aggression or rebellion against authority to be wrong more frequently than did the more acculturated. A non-monotonic relationship is suggested here for the most acculturated Uganda group, like the less acculturated Kenya sample frequently considered aggression to be wrong.

### 3. *Rosenzweig Picture-Frustration Test*[3]

Table 5 shows the means for the six schools for each of the Picture-Frustration Test scores and also, for comparison, the means of the American normative population. The comparison between groups was, however, undertaken through the median test.

An extrapunitive, ego-defensive reaction, E(ED), was the most common response in all groups, including the American, and did not vary significantly with acculturation level, nor did the extrapunitive (E per cent) or ego-defensive (ED per cent) responses in general. The more acculturated groups had significantly more intropunitive responses (I per cent), although the intropunitive, obstacle-dominant response, I(OD), distinguished significantly between the four levels of acculturation in the Uganda groups, and the intropunitive ego-defensive responses, I(ED), distinguished the Uganda *Ss* from the Kenya *Ss*. According to both criteria of degree of acculturation, the more acculturated groups had significantly fewer extrapunitive, obstacle-dominant responses, E(OD), and fewer impunitive, ego-defensive responses, M(ED). The less acculturated Kenya *Ss* had significantly more impunitive responses generally (M per cent) and for all three classes than the Uganda *Ss*. Within the Uganda group, however, it was only the ego-defensive impunitive response, M(ED), that was more frequent with the less acculturated, while the obstacle-dominant impunitive response, M(OD), was less frequent. The less acculturated Kenya *Ss* had significantly more obstacle-dominant responses in general (OD per cent) than the Uganda *Ss*. Within the Uganda group the more acculturated had more need-persistent responses (NP per cent) than did the less acculturated.

## D. Summary

This, the second of four papers on the effects of acculturation on personality and attitudes, tested the hypotheses that the more acculturated, in comparison with the less acculturated, are more frustrated, hence more hostile, and have more effective modes of handling frustration and consequent aggression. Two criteria of degree of acculturation were used: (*a*) four Uganda schools represented four levels of acculturation; (*b*) the 211 Uganda *Ss* were assumed to be more acculturated than the 144 Kenya *Ss*. The frustration-aggression variables were assessed by means of the Rosenzweig

[3] The findings pertinent to the Rosenzweig Picture-Frustration Test were reported in a paper entitled "Responses to acculturation and frustration in East African tribes" at a meeting of the American Psychological Association in Cincinnati, September, 1959.

TABLE 5

ROSENZWEIG PICTURE-FRUSTRATION TEST: MEAN SCORES AND GROUP COMPARISONS

| P-F score | American norms | Uganda schools A | B | C | D | P | Kenya schools E | F | Uganda total | Kenya total | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E(OD) | 2.0 | 3.35 | 4.49 | 4.25 | 4.88 | <.05 | 5.00 | 5.07 | 4.07 | 5.04 | <.001 |
| E(ED) | 6.6 | 5.38 | 5.08 | 5.58 | 5.37 | — | 5.83 | 5.35 | 5.47 | 5.56 | — |
| E(NP) | 2.0 | 1.20 | 1.08 | .98 | .63 | — | 1.16 | 1.35 | 1.03 | 1.27 | — |
| I(OD) | 1.3 | 1.01 | .81 | .53 | .45 | <.02 | .84 | .79 | .77 | .81 | — |
| I(ED) | 2.6 | 3.35 | 3.42 | 3.42 | 3.03 | — | 2.63 | 2.51 | 3.32 | 2.56 | <.002 |
| I(NP) | 2.6 | 1.28 | 1.28 | .60 | .65 | — | 1.02 | 1.08 | 1.04 | 1.05 | — |
| M(OD) | 1.4 | .93 | .62 | .63 | .43 | <.05 | 1.16 | .90 | .64 | 1.10 | <.001 |
| M(ED) | 3.2 | 2.79 | 2.43 | 3.40 | 4.22 | <.02 | 3.45 | 3.81 | 3.09 | 3.65 | <.02 |
| M(NP) | 1.8 | 1.38 | 1.20 | .60 | 1.12 | — | 1.54 | 1.14 | 1.15 | 1.26 | <.05 |
| E per cent | 45 | 48.2 | 48.0 | 48.9 | 49.4 | — | 51.4 | 52.3 | 48.5 | 51.9 | — |
| I per cent | 28 | 23.7 | 22.5 | 19.5 | 17.7 | <.01 | 18.9 | 18.4 | 21.7 | 18.6 | <.001 |
| M per cent | 27 | 21.8 | 17.4 | 19.7 | 23.8 | — | 26.6 | 23.8 | 20.8 | 25.0 | <.01 |
| OD per cent | 20 | 21.6 | 24.1 | 25.4 | 24.1 | — | 29.3 | 28.5 | 23.2 | 28.9 | <.001 |
| ED per cent | 53 | 54.1 | 48.5 | 55.4 | 56.5 | — | 50.8 | 52.2 | 53.5 | 51.6 | — |
| NP per cent | 27 | 17.8 | 15.6 | 11.1 | 10.9 | <.001 | 16.8 | 13.1 | 14.3 | 14.7 | — |

Picture-Frustration Test and sentence completion and thematic apperception tests.

The findings supported the hypotheses. The more acculturated were more aggressive than the less acculturated. They were more frequently frustrated by authority, by the aggression of others, and by their own failure or inability, and, less frequently than the less acculturated feared aggression or viewed it and rebellion against authority to be wrong. The more acculturated were more frequently intropunitive and need-persistent than the less acculturated, and less frequently obstacle-dominant (especially extrapunitive obstacle-dominant) and impunitive. The significance of these findings will be discussed in the fourth paper of this series.

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# ACCULTURATION IN EAST AFRICA. III. ATTITUDES TOWARD PARENTS, TEACHERS, AND EDUCATION*[1]

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## A. PROBLEM AND HYPOTHESES

In the first of this series of papers (1) on the effects of acculturation on the personality and attitudes of East African secondary school students, six ways in which acculturation might influence personality were hypothesized. In the present paper, the third of the series, two hypotheses will be dealt with specifically:

1. The more acculturated differ from the less acculturated in regard to their attitudes toward parent figures, but this difference is less marked than other differences attributable to acculturation because parent-child relations may be expected to be more resistant to acculturation influences than other aspects of personality.

2. Since they may be assumed to believe that the solution to their frustrations lies in education, the more acculturated assign a higher value to education than the less acculturated and view teachers more positively.

Throughout this study two criteria of acculturation were used. First, four schools in the Buganda province of Uganda were chosen to represent four levels of acculturation. Second, it was assumed that the societies represented in the Uganda sample were more acculturated than the societies represented in the sample of students in two schools in the North Nyanza province of Kenya.

## B. METHOD

The method has been described in the first paper of the series (1). The *S*s were 355 students in six secondary schools in Uganda and Kenya. Of the five projective tests that were administered, two (a sentence completion test

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[1] This research was conducted while the authors were attached to the East African Institute of Social Research, Makerere College, Kampala, Uganda, in 1954-55, and supported by a grant from the Carnegie Corporation of New York. The analysis of the data was facilitated by Grant M-2713 of the United States Public Health Service. Other acknowledgements are given in the first paper of the series (1), and express appreciation no less genuine for not being repeated here.

and a thematic apperception test) yielded findings pertinent to the hypotheses concerned with attitudes toward parents, teachers and education.

With respect to the thematic apperception test two points require mention here. First, each of the five stories told by each *S* was scored for level of interpersonal interaction, according to a detailed set of rules which may be summarized as follows:

Score 2: for full interaction, where one person is doing something with, for, or to another.
Score 1: for incipient or completed interaction, or for interaction inadequately implied.
Score 0: for no interaction.

Secondly, the analysis of the "father" stories was complicated by the fact that one "father" card (Card 1) was used for the 6th form of School *A*, and for Schools *C* and *F*, while another (Card 2) was used for the 5th form of School *A* and for Schools *B*, *D* and *E*.

One item from the direct questionnaire was used here, namely, "On leaving school what are your plans (*a*) for the immediate future; (*b*) for the distant future?"

## C. Results

The presentation of results here must differ from that of earlier papers in this series (1, 2): the numerous points of comparison preclude the presentation of the data in tabular form.[2] Differences between groups are complex and are not always clearly attributable to degree of acculturation; hence they are presented under the following headings: (*a*) differences attributable to acculturation; (*b*) differences attributable to special acculturation influences; and (*c*) differences attributable to "old" cultures.

### 1. *Differences Attributable to Acculturation*

The variable which showed the clearest effect of acculturation was the level of interpersonal interaction score on the thematic apperception test. The more acculturated in the Uganda sample had higher ratings than the less acculturated ($p < .01$; $df = 6$), and more of the Uganda *S*s had high ratings than did the Kenya *S*s ($p < .001$; $df = 3$).

[2] The tables to supplement this article have been deposited as Document number 7128 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $3.75 for photoprints, or $2.00 for 35 mm. microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

Qualities attributed to the teacher figure on the thematic apperception test also varied significantly with acculturation level; the more acculturated within the Uganda sample more frequently attributed "bad" qualities to a teacher than did the less acculturated, but they also more frequently attributed "good" qualities since they less frequently failed to specify any qualities at all ($p < .05$; $df = 6$). The same trends held for the Uganda *Ss* in comparison with the Kenya *Ss* ($p < .005$; $df = 2$). Similar trends were found for the responses of pupil to teacher; the Uganda *Ss* more frequently than the Kenya *Ss* specified a negative response, and less frequently failed to specify a response ($p < .05$; $df = 2$).

There were three differences seemingly attributable to level of acculturation within the Uganda sample, which were not confirmed by differences in the same direction between the Uganda sample as a whole and the Kenya sample. These differences all concerned the thematic apperception test. First, the more acculturated more frequently attributed an authoritarian role to the male figure, while the less acculturated more frequently ascribed authority to the female ($p < .05$; $df = 6$). Second, if only those *Ss* who received "father card" No. 1 are considered, the more acculturated more frequently specified a positive response of the child to the father figure, while the less acculturated more frequently did not specify a response at all ($p < .01$; $df = 1$). Third, the more acculturated gave more "teacher" stories than did the less acculturated ($p < .001$; $df = 3$).

There are several significant differences between the total Uganda and Kenya samples which are probably attributable to differences in acculturation, despite the fact that the differences between the Uganda schools do not regularly follow the acculturation gradient. Three of these differences concern the sentence completion items dealing with mother, father, and brother. The Uganda sample more frequently than the Kenya sample implied positive mother-child relations and less frequently evaded evaluation through factual statements ($p < .001$; $df = 4$). A similar trend held for the acculturation gradient within the Uganda sample but it fell far below the level of statistical significance ($p < .30$; $df = 3$). The Uganda sample more frequently than the Kenya sample ascribed positive or negative attributes to the father and less frequently gave factual completions ($p < .001$; $df = 3$). A similar difference occurred with the item relevant to the brother ($p < .001$; $df = 5$). A fourth difference appeared in respect to the *Ss* who received "father card" No. 2 of the thematic apperception test; the Uganda *Ss* gave more stories specifying a positive demanding response of the child to the father than did the Kenya *Ss*, and fewer stories that failed to specify a response ($p < .05$;

$df = 2$). A similar trend held for the more acculturated within the Uganda sample in comparison with the less acculturated but well below the level of statistical significance ($p < .30$; $df = 4$).

On the sentence completion test the Uganda sample gave significantly more educational responses than the Kenya sample ($p < .005$; $df = 3$). In completing the item, "I want very much . . . ," the Uganda *Ss* more frequently than the Kenya *Ss* expressed desires for education and for travel, and less frequently desired food, money or material things ($p < .001$; $df = 3$). In completing the questionnaire, the Uganda *Ss* more frequently than the Kenya *Ss* hoped for further education and training ($p < .02$; $df = 3$), and more frequently stated their vocational plans in terms of professional work rather than in terms of business, farming, or service ($p < .05$; $df = 4$).

### 2. *Differences Attributable to Special Acculturation Influences*

There were several items, all relevant to parent-child relations, in which School *B* (a Roman Catholic institution administered largely by Europeans) differed markedly enough from the other Uganda schools to obscure any differences that otherwise might have been attributable to general level of acculturation. In most of these same comparisons School *C* (an all-African "city" school) varied from a chance distribution in a direction opposite from that of School *B*, and thus the divergences between these two groups of intermediate level of acculturation were more marked than those between the most and the least acculturated schools.

School *B* relatively frequently attributed positive, non-authoritarian action to the mother in thematic apperception test stories and infrequently told themes of a worried or grieving mother; the reverse was the case with School *C* ($p < .02$; $df = 9$).[3] School *B* relatively frequently specified a positive response of child to mother, and less frequently failed to specify a positive or negative response; again the reverse is true of School *C* ($p < .05$; $df = 6$). School *B* more frequently failed to give "father" stories to the thematic apperception test than either the most or least acculturated schools that received "father card" No. 2 ($p < .02$; $df = 2$). School *B* even more than the most acculturated School *A* differed from the less acculturated schools in frequency of attributing authority to the male figure, while School *C* even more frequently than School *D* attributed authority to the female figure ($p < .05$; $df = 6$).

[3] The chi squares, whose significance levels are reported here, are based on the four Uganda schools, although the contrasts between Schools *B* and *C* are highlighted in this section.

Several of the educational and vocational variables also highlighted special differences between the Uganda schools, although in this case it was especially School *C* which seemed to cut across the acculturation gradient. In completing the sentence completion test item, "When I finish school . . . ," School *C* least frequently expressed a desire for further training or for a professional career, and more frequently evaded a response by "misunderstanding" the item, or stated a specific non-professional goal. School *B*, on the other hand stressed vague service plans, while School *A*, the most acculturated, stressed professional plans ($p < .02$; $df = 12$). These differences were confirmed by the answers to the questionnaire. School *C* most frequently stated an intention to enter business or farming, and least frequently expressed professional aspirations; School *B* again emphasized vague service as well as professional goals ($p < .001$; $df = 12$). And yet the *S*s of School *C* seemed even more concerned with their present educational goals than did the other schools, for they gave more educational responses than the other *S*s to the sentence completion test, although the differences between the distributions as a whole were not significant ($p < .50$; $df = 6$). Finally, relatively more frequently than any other school, and especially more frequently than the most acculturated school, School *C* completed the item "I want very much . . . ." with an educational response ($p < .20$; $df = 9$).

### 3. *Differences Possibly Attributable to "Old" Cultures*

The decision to use the Uganda-Kenya comparisons as a second criterion of acculturation ruled out the possibility of a straightforward three-way cross-cultural comparison, which could have been made between the Ganda, Luo and Luyia, by means of discarding all non-Ganda from the Uganda sample and all non-Luyia from School *F*. This decision was made because it was believed that the differences between the Ganda on the one hand and the Luo and Luyia on the other hand were more likely to be attributable to differences in acculturation level than to the influences of the "old" cultures themselves. Yet since the Ganda are most numerous in the Uganda schools, it remains a possibility that significant differences between the Uganda and Kenya samples may be due to differences between traditional Ganda culture and traditional Luo and Luyia cultures.

On the other hand, since Schools *E* and *F* were judged to be equivalent in acculturation level, any differences between them seem likely to be attributable to traditional differences between the Luo and Luyia. That there were only two significant differences between Schools *E* and *F* in regard to attitude toward parents, teachers and education, in contrast to the many sig-

nificant differences between the total Kenya sample and the more acculturated Uganda sample, suggests strongly that differences attributable to acculturation are more conspicuous than differences attributable to "old" cultures. The two differences are as follows. The Luo school ($E$) significantly less frequently than the Luyia school ($F$) attributed authority to the male figure ($p < .01$; $df = 2$) and significantly less frequently told "teacher" stories in response to the thematic apperception test ($p < .05$; $df = 1$). It may also be noted that School $E$ markedly more frequently than School $F$ failed to tell father stories to the thematic apperception test, and, in those that were told, markedly less frequently specified a positive response of child to father. (The fact that Card 1 was used with School $F$ and Card 2 with School $E$ casts doubt, however, on the validity of this comparison.)

There is one difference that seems likely to be due to traditional Ganda culture in comparison with the cultures of the North Nyanza societies, namely, the fact that in completing the sentence completion item, "A good school . . . ," the Uganda *Ss* much more frequently than the Kenya *Ss* emphasized good manners and good character as an outcome of good schools, and less frequently emphasized good teachers and good facilities ($p < .001$; $df = 4$).

## D. Summary

This, the third of four papers on the effects of acculturation on personality and attitudes, focussed on attitudes toward parents, teachers and education as reflected in a thematic apperception test and a sentence completion test. Two criteria of degree of acculturation were used: (*a*) four Uganda schools represented four levels of acculturation; and (*b*) the 211 Uganda *Ss* were assumed to be more acculturated than the 144 Kenya *Ss*.

It was hypothesized that degree of acculturation has less effect upon attitudes toward parents than upon other personality characteristics. This hypothesis was supported by the data; although some significant differences followed the acculturation gradient, others seemed attributable to special acculturation influences associated with sub-cultures, and a few to the influence of the "old" cultures.

It was also hypothesized that the more acculturated assign a higher value to education than the less acculturated. This hypothesis was supported by the findings.

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# ACCULTURATION IN EAST AFRICA. IV. SUMMARY AND DISCUSSION*[1]

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## A. HYPOTHESES

This is the last of a series of four papers reporting a study of the effects of acculturation on the personality and attitudes of students in six East African secondary schools. The hypotheses which guided the study focussed the investigation on the degree of frustration experienced, the modes of response to frustration, and attitudes toward authority figures and toward education.

It was hypothesized that in a changing society the need to exchange the goals and values of the "old" culture for new goals and values that could as yet be only imperfectly attained results in heightened frustration and consequently also in heightened aggression. As acculturation proceeds toward the point of assimilation into the new culture—a state that has not been approached by the subjects of this study—it is expected that the frustration contingent upon acculturation diminishes to the vanishing point. In the middle ranges of acculturation, however, it is hypothesized that the more acculturated experience more frustration and hence more aggression than the less acculturated, and, moreover, differ from them in their modes of meeting frustration and of handling aggression, tending, in general, toward more flexible and more effective solutions.

Because the frustration experienced in changing societies is likely to influence people's responses to those authority figures who mediate acculturation, attitudes toward Europeans and teachers were of particular interest. Attitudes toward chiefs were also of interest, although in British East Africa the chiefs mediate British administrative policy, rather than representing the traditional authority of the old culture. Attitudes toward traditional author-

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[1] This research was conducted while the authors were attached to the East African Institute of Social Research, Makerere College, Kampala, Uganda, in 1954-55, and supported by a grant from the Carnegie Corporation of New York. The analysis of the data was facilitated by Grant M-2173 of the United States Public Health Service. Other acknowledgements are given in the first paper of the series (1), and express appreciation no less genuine for not being repeated here.

ity figures are hypothesized to change with increasing acculturation, as the values which they represent are increasingly rejected in favor of new values. Attitudes to parents as traditional authority figures may, however, be expected to resist change due to acculturation influences more than attitudes to other authority figures, because of the extent to which they are rooted in early childhood experiences which themselves are resistant to change. In these societies, however, in which acculturation has been proceeding for at least the past fifty years or so, it is obvious that not even parents represent the "old" culture; they may mediate some aspects of it to their children, but on the other hand they may also mediate some aspects of the "new" culture which they themselves have acquired. Finally, since education is the major formal mode of mediating acculturation, attitudes toward education are of interest as indices of attitudes to acculturation itself.

The first paper in this series (2), besides presenting the hypotheses and method basic to the study, dealt especially with attitudes toward chiefs and Europeans as authority figures representing the new culture, and with political awareness generally. The second paper (4) was concerned specifically with frustration and modes of handling consequent aggression, and the third (3) with attitudes toward other authority figures—parents and teachers—and general attitudes to education. An earlier paper (1) reported the findings in regard to rigidity and flexibility in a problem-solving situation. The aim of this fourth paper is to summarize the earlier papers and to discuss their findings in the light of hypotheses pertinent to the psychology of acculturation.

## B. Method

The methods used to assess personality and attitudes were chiefly projective methods designed for or adapted to group administration: a specially constructed sentence completion test, five cards of an appropriate version of the Thematic Apperception Test, a figure-drawing test and the Rosenzweig Picture-Frustration Test. An Einstellung Test of the "water-jar" type was used as an index of flexibility-rigidity and a factual questionnaire was also given.

The *S*s were drawn from the upper forms of six secondary schools. Four schools in the Buganda province of the British Protectorate of Uganda were chosen to represent four levels of acculturation. Although the schools themselves can easily be ranked in the order in which they provide contact with the skills, beliefs, values and customs of the "new" culture and with the Europeans who mediate it, and although most of the selection influences

coincided with the acculturation level of the school itself, it became clear in the course of the study that to some extent the schools themselves drew from and supported sub-cultures in which there were special acculturation influences that sometimes cut across the general acculturation gradient.

The *S*s in the four Uganda schools were predominantly Ganda, although a minority were from other Uganda societies. The two schools in the North Nyanza province of the British Colony and Protectorate of Kenya were chosen because, despite close geographical proximity, their student bodies came from different societies. All the *S*s in one school were Luo, a Nilotic society, whereas most of the *S*s of the other school were from a variety of Bantu societies, now classed together as Luyia.

The similarities between the schools are attributable either to common acculturation influences or to common features of the "old" cultures of the various African societies represented in the sample or, of course, to both. Differences between the schools are believed to be attributable chiefly to differences in level of acculturation. This belief is most clearly tenable in regard to differences between the Uganda schools, but it was also assumed that the Uganda sample as a whole was more acculturated than the Kenya sample. This assumption was based on the fact that the traditionally centralized political organization of Buganda was utilized by British administration and thus might be expected to mediate acculturation influences more readily than the political organization that was imposed by the British on the traditionally non-centralized Kenya societies. This assumption is given some support by Doob (5) who tentatively ranked the Ganda as more acculturated than the Luo. It is recognized, however, that some differences between the schools may stem from differences in the "old" cultures of the different societies, especially differences between the two Kenya schools which were judged equal in level of acculturation, but also differences between the Uganda and Kenya samples.

Thus there were two criteria of differences attributed to acculturation: (*a*) differences which distinguish the four Uganda schools from one another in a regular fashion, whether monotonically or non-monotonically; and (*b*) differences which distinguish the Uganda sample from the Kenya sample, provided that the two Kenya schools do not themselves differ significantly in the variable in question, and especially if the difference is in the same direction as that distinguishing between the levels of acculturation within the Uganda schools themselves.

## C. Discussion of Results

The findings will be discussed in the following order. First, the similarities common to the whole sample will be summarized. Second, differences possibly attributable to the "old" cultures of the societies represented in the sample will be discussed. Third, differences seemingly attributable to special acculturation influences operating in sub-cultures will be examined. Finally, differences attributable to general level of acculturation will be considered.

### 1. *Common Characteristics of This East African Sample*

Although the psychology of acculturation is concerned with establishing general principles applicable to all instances of acculturation, regardless of the particular nature of the "old" culture that is being changed and regardless of the nature of the new beliefs, goals, values and practices that are being introduced, any single instance of acculturation is influenced by the particularities of the old and the new cultures and by the interaction between them. The cultural characteristics highlighted in the similarities in the schools of this sample reflect both features of the "old" societies which are changing and features of the "new" influences which are precipitating and sustaining the change. These similarities will be summarized as a useful background against which differences attributable to acculturation may be viewed.

First, however, it is desirable to point out that the total sample of this study is not an artificial composite. The societies from whom the *Ss* of this study were drawn have much in common. They have been for some generations located in the thickly populated and fertile strip of territory bordering on Lake Victoria. They have all for fifty years or more been subject to British administration and influence. Although all have thus experienced contact with Western culture, none have been faced with the serious conflicts of interest that arise in African districts where white settlers are numerous and powerful. The sample in the present study is by no means a stratified sample of the societies of whom these general statements can be made, but it is believed to be reasonably characteristic of secondary school students of these societies.

The following generalizations about the sample are supported by the data of the earlier three papers (2, 3, 4), although they were not discussed there. Perhaps the most striking similarity is that the majority of *Ss* in all groups were eager for a higher level of acculturation, to judge from the high value they attached to education and from their personal aspirations for further education and training (3). The number of "educational" responses to the

sentence completion test ranged from 0 to 12. More than 10 per cent gave six or more such responses, and two-thirds gave two or more. One item particularly ("I want very much . . . .") elicited educational responses; one-third of the *S*s were concerned with the importance of present educational success or future training. Over two-thirds of the *S*s told one or more TAT stories involving a teacher, and in these stories the pupil was more frequently positive than negative in his response to the teacher. Over half of the responses to the item, "Most teachers . . . ," in the sentence completion test reflected positive attitudes toward teachers. According to questionnaire responses, nearly half of the *S*s hoped for professional careers after finishing their training.

It was assumed that frustration is heightened in changing societies because of difficulties encountered both in hewing to old lines and in pursuing new objectives, but this sample as a whole did not seem to be experiencing a high degree of frustration. The number and nature of the politically-toned responses to the sentence completion test suggest, however, that some frustration was experienced (2). Some of the responses indicated active discontent: these were chiefly expressions of desire for selfgovernment, for independence, or for increased African representation on legislative councils; concern in Uganda about the deportation of the Kabaka (8) and related issues. Many *S*s expressed desire to serve the people after finishing their education, generally through teaching or other professional services and very rarely through personal political ambitions. Most of these "political" responses, however, seemed not so much to be personal frustrations of the student himself as echoes of the political frustrations of the older people with whom the students were identified. It seems reasonable to suppose that these students still in secondary school had not yet encountered to the full the frustrations to be met in the achievement of the goals they had accepted through the influence of acculturation. Indeed, the high proportion who expressed a hope for future training toward professional careers suggests that many must have aspirations that are unrealistically high in the light of the limited number of opportunities for such training. Thus there is implicit here a higher potential than actual level of frustration.

The relatively low level of personal, present frustration is shown by the fact that the most frequent sources of annoyance reported (4) were neither frustration by authority nor frustration clearly stemming from problems of acculturation. It was only in the area of educational advancement itself that personal frustration associated with acculturation was frequently reflected in the test responses.

If the level of personal frustration is low, the level of aggression may also be expected to be low. That this was so was borne out by the small number of "aggressive" themes in TAT stories (4). Indeed aggression seemed something more to be feared than accepted, to judge from the sentence completion test. The Rosenzweig Test suggested that the chief mode of handling the aggression engendered by frustration was ego-defensively to attribute blame to some external person or situation, but since this response was most common also among Americans it cannot be viewed as distinctive of changing African societies. On the other hand, a rigid adherence to a ready-made but inappropriate solution to a problem-solving situation was generally characteristic of this East African sample, and much more frequent than in comparable samples in England and the United States (1).

In line with the generally eager acceptance of acculturation as desirable is the fact that nearly half of the *S*s expressed positive attitudes toward Europeans who, as representatives of the "new" culture, tend to be in a dominating and acculturating role (2). The contribution of Europeans most consciously valued was the civilizing, educating influence which they had brought to East Africa. That the European was covertly acknowledged as dominant was shown by the large proportion who drew the European figure larger than the African figure in the figure-drawing test, although the sentence completion responses very rarely gave overt acknowledgement to European superiority or fitness to rule.

Responses pertinent to authority figures (2) suggested that authority is usually accepted without resentment or rebellion. Authority figures were so infrequently described as "bad" or punitive that it may be inferred that they were generally viewed as benign. Not only Europeans (2) but also teachers and parents (3) seemed to be viewed as benign authorities. Chiefs were an exception (2), for they were viewed negatively on the whole, and this negative evaluation stemmed largely from the conviction that they lagged behind in regard to the attributes that the "new" culture held out as desirable for authority figures, viz., competence, a high level of education and imperviousness to corruption.

Both the father and the mother were frequently viewed as authority figures, but also frequently as non-authoritarian, and attitudes toward the mother were especially positive (3). Responses implying either rebellion to or resentment of parents were very rare.

The political opinions reflected in the test responses have a certain topical interest. That these East Africans were, by and large, well-disposed to Europeans and to the British administrative authorities is noteworthy because

at the time the data were collected, 1954-55, the conscious and deliberate opinion about Europeans, at least in Buganda, was censorious. When impatience with European dominance was expressed, the resentment was not based on absence of democratic procedures (*i.e.*, inadequate representation and responsibility in government). It was not freedom in the sense of Western democracy for which these young East Africans yearned, but freedom in the sense of autonomy of the African politico-geographical unit or, in the case of the Ganda, autonomy of the Ganda society itself.

Resentment of discrimination was infrequent, especially resentment of discrimination on the basis of skin-color, probably because these *S*s had encountered little of it in their schools and in the areas in which they live. Finally, a comment should be made about the insularity of these East African *S*s. None of the Kenya *S*s referred to the contemporary "Kabaka crisis" in Uganda, and very few of them (and none of the Uganda *S*s) made any reference, however oblique, to the contemporary Mau Mau emergency which was causing so much concern in other provinces of Kenya.

### 2. *Differences Attributable to "Old" Cultures*

There were remarkably few significant differences between schools that seemed attributable to differences other than special or general acculturation influences. It is assumed that significant differences between the two Kenya schools may be attributable to differences between the Luo and Luyia cultures. There were four such differences. The Luo *S*s of School *E* less frequently than the mostly Luyia *S*s of School *F* identified positively with the father, and less frequently attributed authority to the male and more frequently to the female figure (3); they identified themselves less frequently with Europeans (2); they told fewer "teacher" stories to the thematic apperception test (3). On the whole the differences seem to imply that the Luo tend to identify with the presumably weaker and less dominant figures—with the female and the African rather than with the male and the European. The features of Luo culture that could have predisposed to these differences are quite obscure.

On the whole, differences between the Uganda and Kenya samples seem attributable to differences in acculturation level, but one from its very nature seems more likely to represent a difference between "old" cultures, namely, the fact that the Uganda *S*s, of whom the majority were Ganda, placed a higher value than did the Kenya *S*s on good manners and good character as an outcome of the teaching of good schools (3). The traditional Ganda culture is distinguished for its emphasis on training in good manners from the earliest years (7).

### 3. *Differences Attributable to Special Acculturation Influences*

In the third paper of this series (3) attention was devoted to differences between the Uganda schools which seemed to reflect special acculturation influences, probably mediated originally by the parents but later reinforced by the school, which cut across the general gradient of acculturation. Thus the students of the Roman Catholic school, most of whom came from Catholic families, differed consistently from the other schools in regard to attitude toward the mother figure and to sexual authority roles. Authority was infrequently attributed to the female figure, and mother-child relations were portrayed as overwhelmingly positive, with the mother in a nurturant, non-authoritarian role. Elsewhere (4), the *Ss* were reported to be infrequently annoyed by the frustration provided by authority or by threat of aggression and more frequently annoyed by minor aspects of non-aggressive, non-authoritarian interpersonal relations. Thus at the relatively conscious level represented by the sentence completion test, they tended to be non-aggressive and accepting of authority to a greater degree than might be expected from their general acculturation level. Finally, more frequently than the students of other schools they were oriented toward humanitarian service in formulating their plans for the future (3).

The students of the "city" school with its all-African staff were reported to reflect the occupational backgrounds of their fathers in choosing as vocational goals business, cash-crop farming, or other occupations relatively independent of direct control by Europeans. There was also a suggestion that this group, more even than the least acculturated group, reflected traditional attitudes toward parents and sex roles (3). They also, more than any other group seemed to be irritated by authority (4). These distinctive features of this school seem compatible with the reputation the school has for drawing students from families who are particularly "nationalistic" in their political orientation.

### 4. *Differences Attributable to Acculturation Level*

Nearly all the differences between the schools in this study seem attributable to differences in general level of acculturation. Several considerations lead to the formulation of propositions about the effects of acculturation on personality as hypotheses rather than as conclusions. First, they are expressed in general terms applicable to relative acculturation level in changing societies, and generalized beyond the populations represented in these East African samples. Second, the confounding of the general acculturation gradi-

ent with special acculturation influences and with differences possibly attributable to the "old" cultures makes it desirable to be tentative about conclusions, although the utilization of two criteria of degree of acculturation lessens the dangers introduced by the confounding of variables. Third, comparisons between the groups in regard to the distribution of their responses among several qualitatively distinguishable categories seems clearly to lead to hypothesis-making rather than to hypothesis-testing. The chi square statistic permits a statement of the probability of the difference between distributions being due to chance; it may suggest that the detailed differences which contribute most heavily to the chi square are worthy of note; but it does not permit an inference that these details themselves differ significantly in incidence. Fourth, the fact that the qualitative classifications of the responses to the thematic apperception and sentence completion tests grew empirically out of the same data in which they were used to test group differences implies the danger of capitalizing upon chance variations in the distribution of responses. Finally, although the sentence completion and thematic apperception tests may have a certain "face validity," regardless of the society in which they are administered, the Rosenzweig Picture-Frustration Test scores are here interpreted in a way which cannot be assumed to be valid for *S*s in East Africa, in the absence of validation studies. There seems nevertheless to be no alternative to accepting Rosenzweig's (9) interpretative hypotheses at least tentatively (although in one instance an alternative interpretation is offered).

The propositions emerging from the present study are:

*a. The more acculturated experience more frustration than the less acculturated.* This proposition is basic to the rest that follow; it stems from the assumption that individuals in societies undergoing change from the ways of the "old" culture to the ways of the "new" are dissatisfied with the old and/or faced with incorporating new goals and new values for whose attainment their old habits and customs are inappropriate. This proposition probably holds only within a middle range of persons who are "changing"; thus, it is believed that frustration is non-monotonically related to acculturation. It is likely that the more closely the degree of acculturation approximates the status of "changed" or assimilated into the new culture, and the more closely the skills, knowledge, beliefs, goals and values approach those of the new culture, the less frustration there will be. On the other hand, if the degree of acculturation is so slight that it approximates the "unchanged" end of the continuum, and the new goals and values have not been accepted, then the very lack of striving for the new goals will imply less frustration.

In this study the less acculturated *S*s tended to have more impunitive ego-defensive responses on the Picture-Frustration Test than did the more acculturated *S*s (4, Table 5). Rosenzweig interprets such a response to imply that the individual regards frustration as unavoidable, exonerating from blame both himself and the person or situation responsible for the frustration. Within the framework of the Rosenzweig rationale, it is assumed that the frustrating situations sampled in the test would be equally frustrating for all, and hence an impunitive response of this type is ego-defensive. It may well be, however, that less acculturated *S*s, not having accepted the goals and values of the new culture to the same extent as the more acculturated, truly are less frustrated and are not reducing their feelings of frustration by defensive maneuvers.

The evidence cited for the second proposition is also relevant to the first.

*b. The more acculturated are more politically aware and more actively discontent with the political status quo than are the less acculturated.* This proposition is suggested by the finding that the Uganda *S*s gave more "political" responses to the sentence completion test than did the Kenya *S*s, and more frequently in their responses expressed a nationalistic identification[3] and active discontent with British administration (2, Tables 6 and 7). In the Uganda sample itself the most acculturated group most frequently expressed active discontent, although in general the number and distribution of political responses did not vary with the acculturation gradient.

*c. The more acculturated are more aggressive than the less acculturated.* This basic proposition is a corollary of the first, on the hypothesis that aggression results from frustration. The chief evidence for the proposition in this study is that the more acculturated groups told "aggressive" stories in response to a thematic apperception test significantly more frequently than did the less acculturated (4, Table 1).

The fact that aggression is more frequent among the more acculturated does not necessarily imply that it is more frequently "acted out"; it may merely mean that hostile and resentful feelings are more readily accepted, as seemed the case in this East African sample. Although "unmodified" aggression in thematic apperception test stories, which has been proposed by some (e.g., 6) as an index of the likelihood of "acting out," did not vary significantly with level of acculturation in this sample, there is ample evidence that the more acculturated were more ready to acknowledge hostile

[3] It may well be that the greater nationalistic identification of the Ganda stems not only from acculturation but also from a very strong tribal identification characteristic of their "old" culture.

feelings than were the less acculturated. The more acculturated more frequently said that they were annoyed by an aggressive threat (4, Table 2), while the less acculturated more frequently said that they feared aggression (4, Table 3). The less acculturated seemed likely to displace whatever aggression they felt from major to minor sources of frustration, since they listed as sources of annoyance minor irritations in interpersonal relations or unavoidable physical irritations, or they put hostility at a distance by stating it impersonally (4, Table 2). Moreover, the proposition that follows, and the evidence which supports it, also implies that the more acculturated are more ready to acknowledge feelings of hostility than are the less acculturated.

*d. The more acculturated more readily feel and express negative attitudes to authority figures than do the less acculturated; the more acculturated are especially likely to be critical of leaders who lag behind in their adherence to the goals, values and practices of the "new" culture.* That the more acculturated are more negative to authority was found in regard to their attitudes to Europeans, teachers and chiefs. In responding to the sentence completion test, the more acculturated more frequently expressed negative or mixed attitudes and less frequently expressed positive or neutral attitudes toward Europeans than did the less acculturated (2, Table 1). The more acculturated were more critical of teachers than were the less acculturated; in their "teacher" stories in the thematic apperception test they more frequently attributed bad qualities to the teacher (although they also more frequently attributed good qualities); in addition, they more frequently ascribed a negative response of pupil to teacher (3, p. 411). In the Uganda group, the more acculturated more frequently expressed negative attitudes toward chiefs and less frequently made positive or neutral statements than did the less acculturated in responding to the sentence completion test (2, Table 4); moreover the responses made it clear that chiefs were criticized for qualities incompatible with the concept of the good leader in the "new" culture. The Uganda-Kenya comparisons, though in the same direction, were below the level of statistical significance.

The more acculturated more frequently resent the restrictions imposed by authority figures than do the less acculturated. This was suggested by the fact that the Uganda *S*s quoted authority as a source of annoyance more frequently than did the Kenya *S*s (4, Table 2) and less frequently viewed rebellion against authority to be wrong (4, Table 4).

These findings did not hold, however, for parent figures, despite the fact that parents were often viewed in an authoritarian role (3, pp. 411-412). Perhaps because of this, the more acculturated did not differ significantly from

the less acculturated in regard to their description of authority figures in the thematic apperception test, although there was a tendency for the more acculturated more frequently than the less acculturated to view the authority figure as punitive (2, Table 5). This leads to the next proposition:

*e. Attitudes toward parents and attitudes inculcated early by identification with parents are more resistant to acculturation than are attitudes to other authority figures and other personality characteristics.* Most of the significant differences between schools that seem to be attributable either to tribal influences or to other special cultural influences concern parent-child relations, sexual roles and other characteristics seemingly related to deep-seated childhood experiences. There were very few differences in attitudes to parents that seemed clearly related to a general acculturation gradient.

*f. The more acculturated identify themselves more closely with the representatives of the "new" culture than do the less acculturated and are more ready to view them as superior and dominant.* Doob (5, pp. 102-110) views this state of affairs as especially favorable for learning new ways from an outsider, implying that the outsider is recognized as competent as an instructor, desirous of producing a change, and favorably viewed by the learner; he hypothesized the identification of the learner with the outsider as a factor particularly favorable to learning.

The chief evidence in regard to identification stems from the fact that within the Uganda group the more acculturated *S*s significantly more frequently than the less acculturated *S*s drew a European figure rather than an African figure first in the figure-drawing test. The closeness of the identification with Europeans may have been facilitated in Schools *A* and *B* by having European teachers available as models. The Kenya schools also had European teachers; School *F* (but not the Luo School *E*) resembled Schools *A* and *B* in regard to the proportion of *S*s who drew the European first. In many other respects, however, School *F* resembles the less acculturated rather than the more acculturated Uganda groups; hence the accessibility of Europeans as models may be a crucial factor in identification, more crucial than the general level of acculturation (2, Table 1).

The evidence for a view of the European as superior and dominant is indirect, for in all groups there was a marked avoidance in sentence completion test responses of overt acknowledgement of the superiority of the European, and especially of any justification this superiority might give him for ruling and dominating Africans. Despite this the majority of *S*s gave covert acknowledgement of the dominance of the European by drawing him larger than the African in the figure-drawing test. This tendency was more

frequent among the Uganda *Ss* than among the Kenya *Ss*, although in the Uganda group itself the tendency was non-monotonically related to acculturation level. In any event, it is noteworthy that it is the most acculturated group which most frequently both identified with the European and yet acknowledged (although covertly) his dominance and superiority (2, Table 2).

*g. The more acculturated are more frequently capable of balanced or qualified value judgments in their views of the "new" culture and its representatives than are the less acculturated.* This proposition was suggested by the finding that the more acculturated more frequently expressed "mixed" attitudes to Europeans than did the less acculturated in responding to the sentence completion test (2, Table 1). It was the most acculturated who could appreciate the positive contributions that Europeans have made, while still maintaining reservations about them, and who could recognize that not all Europeans are the same, but that they may range from good to bad.

*h. The more acculturated respond to frustration more effectively and constructively than do the less acculturated; their response makes it more likely that they will learn to overcome the obstacles which prevent them from reaching their goals.* One line of support for this proposition comes from the finding of an earlier study (1) that the more acculturated were more flexible in a problem-solving situation, while the less acculturated were more rigid, clinging more tenaciously to habitual solutions which were no longer appropriate.

Further evidence comes from the findings of the Rosenzweig Picture-Frustration Test (4, Table 5). The more acculturated more frequently than the less acculturated responded to frustration intropunitively, blaming themselves for their difficulties; they were also more persistent in their emphasis on the importance of finding a solution for the frustrating situation. The less acculturated, on the other hand, were more frequently helplessly and passively fixated on the obstacle in the frustrating situation than were the more acculturated. To state these findings more specifically in terms of the test scores, the more acculturated gave more frequent intropunitive (I per cent) and need-persistent (NP per cent) responses, and less frequent extrapunitive, obstacle-dominant responses, E(OD), than did the less acculturated. In the sentence completion test the more acculturated were more frequently annoyed by their own failure or inability than were the less acculturated (4, Table 2). Although in extreme form an intropunitive orientation can be crippling (as in depressive reactions) in moderate form it seems a useful prerequisite for

learning: an individual who is aware that his own shortcomings contribute to his frustration will be more likely to attempt a solution through modification of his own behavior than if he did not possess that insight.

*i. The more acculturated are more articulate in expressing feelings, both positive and negative, about other people than are the less acculturated.* The less acculturated gave "neutral" responses more frequently to the sentence completion test than did the more acculturated. This held for attitudes to Europeans (2, Table 1), chiefs, 2, Table 2), mother, father and brother (4, p. 411). In responding to the thematic apperception test the more acculturated less frequently failed to specify the qualities of teacher figures or the responses of pupils than did the less acculturated (4, p. 411); they also more frequently specified a response of child to father figure (4, p. 411).

*j. The more acculturated are more sensitive to other people than are the less acculturated.* The chief evidence for this proposition is that the more acculturated had significantly higher ratings for level of interpersonal interaction on the thematic apperception test than did the less acculturated (3, p. 410).

*k. The more acculturated are more eager for acculturation than the less acculturated; in particular, they are more concerned with education and with obtaining as high a level of training as possible.* This proposition does not obtain unambiguous support from the findings of this study, probably because the students of all schools seemed to attach a very high value to education and to strive for educational success and advancement with an earnestness not altogether contingent upon acculturation level. Nevertheless, the following findings are pertinent: within the Uganda schools the more acculturated told more "teacher" stories to the thematic apperception test than did the less acculturated; the Uganda sample gave more educational responses on the sentence completion test than did the Kenya sample, and when stating wishes more frequently expressed a desire for education and travel; they also more frequently stated professional goals when responding to the questionnaire (3, p. 412). Furthermore, the Uganda sample more frequently than the Kenya sample expressed fear of educational failures and disappointments (4, Table 3).

Doob (5) conceptualized the psychology of acculturation in the form of twenty-seven hypotheses. There were thirteen of these in regard to which the present study could yield relevant data. Virtually all of the eleven propositions about the effect of acculturation on personality and attitudes that emerged from the study are in agreement with Doob's thirteen relevant hypotheses.

The evidence from which the eleven propositions stemmed gives almost complete support to the body of hypotheses that originally guided the study. In very brief summary, evidence has been presented toward the support of the following hypotheses: in comparison with the less acculturated, the more acculturated feel more frustrated and more hostile; they feel more hostile toward authority figures, including the representatives of the new culture, but their attitudes toward parent figures differ less than their attitudes toward other authority figures; they have more effective modes of handling frustration and consequent aggression, and, in particular, they are more flexible in problem-solving; and they are more eager for acculturation, emphasizing education in the hope of overcoming frustration.

In only one minor particular did the evidence contradict the original hypotheses. Since it was hypothesized that the more acculturated assign a higher value to education than do the less acculturated it was also hypothesized that they would view teachers more positively. It was found, however, that they more frequently viewed teachers negatively than did the less acculturated, just as they more frequently viewed other authority figures negatively.

Five of the eleven propositions were not clearly represented in the original hypothetical framework, and thus may be viewed as new hypotheses suggested by the data themselves. Briefly summarized, these new hypotheses are: in comparison with the less acculturated, the more acculturated are more politically aware and more actively discontent with the political *status quo*; they identify themselves more closely with the representatives of the "new" culture and covertly feel them to be superior and dominant; they are more frequently capable of balanced or qualified value judgments in their views of the new culture and its representatives; they are more articulate in expressing feelings about other people, both positive and negative; and they are more sensitive to other people.

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# THE DIMENSIONALITY OF SOCIAL ATTITUDES*[1]

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## A. PROBLEM

Soon after the introduction of the social attitude scale, it became apparent that some method for establishing order in this fast-growing domain was highly desirable. Thurstone's (16) evident success in the field of intellect suggested factor analysis as a means. Shortly thereafter, Ferguson (3) undertook an analysis of ten Thurstone scales of social attitude. Three factors were identified by Ferguson: Humanitarianism, Religionism, and Nationalism.

Later, Lorr (10) factored the interrelationships represented by Vetter's (17) study of liberalism-conservatism. The latter's eight scales were cast by Lorr into a two-dimension system: One dimension was labeled Political Nationalism and Economic Conservatism vs. Internationalism and Economic Socialism; the other, Individual Freedom from Social Regulation and Control vs. Control by Social Codes and Government Organization.

Eysenck (2) similarly found a two-dimension solution for the interrelationships underlying an inventory of social opinions, administered to groups in England and Western Germany. For both samples, the two factors extracted seemed to justify the labels Radicalism-Conservatism and Toughmindedness-Tendermindedness.

Keehn (9) applied a modified version of the Eysenck inventory to a sample of Lebanese students at the American University at Beirut. Upon analysis, one factor seemed to indicate the Toughmindedness vs. Tendermindedness dimension found by Eysenck. The second, however, appeared to reflect the major political issues in the Arab world, and Keehn concluded that the Radicalism-Conservatism dimension might be less culture-free than Eysenck's work had implied.

The above studies suggested certain hypotheses which might be advantageously tested in the polyethnic society that is modern Hawaii. Noted as

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a "melting pot of cultures," Hawaii is rapidly synthesizing an integrated society from a number of racial-ethnic sources, principally Japanese, Chinese, Hawaiian, Korean, Filipino, and mainland American. The possibility of using this group for a testing of various hypotheses of cultural invariance is immediately apparent.

However, things cultural aside, another possibility is suggested by a review of the studies reported in this area: all reflect the pre-computer era, when it took an adventurous soul, indeed, to undertake a factor analysis of a large inventory. The two- and three-factor solutions commonly reported may reflect more the labor involved with such analyses than they do generally accepted criteria for simple structure. With procedures currently available, however, a more careful investigation of the "two- or three-factor" hypothesis may be made.

### B. Procedure

An inventory of 39 statements of social opinion, similar to Eysenck's, was prepared (see Table 1) and administered to a sample of 149 residents of Hawaii. The sample was drawn from three sources: students of the University of Hawaii ($N = 41$), their parents ($N = 69$), and three adult social organizations ($N = 39$). In the interests of complete anonymity, no identification was required, but it is known that the sample was composed chiefly of second-generation Americans of Oriental ancestry, principally Japanese. A minority, very likely no more than 20 per cent of the total, was of Western stock. The sample doubtless varied considerably in social level, but probably centered about lower middle-class. A study by Vinacke (18) of religious identifications of University of Hawaii students suggests that the sample was predominantly Christian, with the various sects in about the proportions to be found in other American communities. A small part of the sample, perhaps less than 10 per cent, was probably Buddhist.

### C. Analysis

Tetrachoric correlation coefficients were computed between all possible pairs of items, making use of an IBM 650 program developed by the investigator. The procedure is essentially that of Jenkins (7). The resulting matrix[2] was factored by the principal-axes method, using the approach of Saunders (14): Zeros were first used in the diagonal cells, the matrix

[2] The correlation, principal-axes, and transformation matrices have been deposited with the American Documentation Institute. Order Document No. 7209 from American Documentation Institute, 1719 N. St., N. W., Washington 6, D. C., remitting $1.25 for 35 mm. microfilm or $1.25 for 6 by 8 inch photocopies.

TABLE 1
OPINION SURVEY

Listed below are a number of statements taken from newspapers, books, magazines, etc. They have been selected so that almost everyone will have some opinion about them. You will discover that you agree with some, that you disagree with others. If you agree *very much* with a statement, put two plus signs (++) to the left of the number of the statement. If you agree *somewhat* with the statement, use one plus sign (+). If you tend to disagree with a statement, use a minus sign (−). If you disagree *very much,* use two minus signs (−−). If, after much thought, you discover that you have no opinion one way or the other about the statement, indicate this with a zero (0), although this is to be used *only* in the rare case where you do not care about the issue one way or the other. Participation in this Survey is, of course, completely voluntary, although we shall be glad to have your opinions. Your personal answers will be entirely anonymous.

1. In our country we have the best example of government yet devised.
2. It would be very interesting and desirable to have a family of another race living next door to me.
3. Persons with serious hereditary defects and diseases should be compulsorily sterilized.
4. Sometimes war is the best solution of an international problem.
5. Conscientious objectors are traitors to their country and should be severely punished.
6. War seems to be a part of human nature.
7. The death penalty is wrong and barbaric; it should be abolished.
8. Before they are married, a man and woman should have sex relations to see whether they are good sex partners.
9. Religion offers the best hope for survival of our civilization.
10. A Communist who wishes to make a public speech should be permitted to do so.
11. Interracial marriage should be discouraged.
12. Violent crimes should be punished by hard corporal punishment, such as whipping.
13. Men and women doing the same work should receive the same pay.
14. Women are not the equals of men in intelligence, organizing ability, etc.
15. There should be compulsory religious training in all schools.
16. Some races are naturally inferior to others.
17. Divorce laws should be changed to make divorce easier.
18. Instruction in birth control should be given to all young people.
19. If the government took over a big industry like the sugar industry, it would lead to inefficiency, corruption, and stagnation.
20. All the professions (medicine, law, dentistry, etc.) should be open to women.
21. Our treatment of criminals is too harsh.
22. It is wrong that men should be permitted more sexual freedom than women.
23. People should not be permitted to vote unless they have a necessary minimum of intelligence and education.
24. There will be another world war in 25 years.
25. The United Nations should become a world government, even if it meant giving up some of our own national power.
26. Some sex education should be given to all boys and girls of grade school age.
27. If an unmarried woman becomes pregnant, she should be permitted to have an abortion, if she desires it.

TABLE 1 (*continued*)

28. There should be far more political and controversial discussion on the radio than we have now.
29. Immigrants to America should give up their customs for American ways.
30. Children should be brought up to have more respect for their ancestors than they have now.
31. The racial group to which I belong has a higher standard of morality than have other groups.
32. Our conscience is the best guide for our behavior.
33. Friendships between Oriental and Caucasian people of opposite sex should be encouraged.
34. Schools today do not have enough discipline.
35. It would be very desirable for high school students to study and discuss controversial subjects, such as sex and Communistic theory.
36. As long as there are different races, we shall probably have some racial prejudice.
37. The American way of life is superior to any other way of life.
38. A science which conflicts with religion should not be taught in the schools.
39. Religion is probably a greater source of trouble in the world today than it is a source of good.

factored, and only those roots of positive signs and greater in absolute magnitude than the largest negative root were retained for the next run. Communalities were estimated on the basis of the retained roots, and the matrix refactored. This procedure was followed until two successive runs produced the same number of accepted factors. Eight factors were suggested by the above "rule of thumb," leaving a distribution of rejected roots with values between 1.1 and —1.2.

Rotation was accomplished by use of the Varimax principal (8), using a program for the IBM 650 developed by Horst, *et al.* (5). The rotated matrix is presented in Table 2. A fairly creditable degree of simple structure was attained. A plotting of all pairs of factors suggested the possibility of an additional factor, one which might have possessed a considerable relationship to other factors, had it been extracted. (The essential conservatism of Saunders' method should be noted.)

The factors are set forth below in the traditional manner, listing each factor in order of magnitude, with its chief markers and their factor loadings. Because of the usual overinflation of solutions with tetrachorics, only those items with loadings of .30 or more are generally listed. (One minor exception to this may be noted.) Occasional reflections of items have been made for ease of presentation.

The principal features of Factor I center about faith in religion, coupled with a deprecation of science; ethnocentrism, and belief in severe punishment

TABLE 2
ROTATED SOLUTION
(decimals omitted)

| | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| 1 | —09 | 16 | —27 | —15 | —09 | —51 | 23 | —15 |
| 2 | —01 | 37 | —18 | 02 | 25 | —17 | —01 | 10 |
| 3 | —16 | —19 | —11 | 10 | 09 | —14 | —47 | —23 |
| 4 | 05 | 08 | —08 | 12 | —17 | —27 | —18 | —42 |
| 5 | —31 | —24 | 04 | 40 | 09 | 09 | 07 | 16 |
| 6 | —25 | 04 | —07 | —08 | —31 | 58 | 25 | —01 |
| 7 | 17 | 15 | 14 | —06 | 09 | 07 | 64 | —19 |
| 8 | 03 | —36 | —11 | —10 | 28 | 43 | —01 | —41 |
| 9 | —56 | 15 | —20 | —70 | —07 | —14 | 09 | —11 |
| 10 | 15 | 08 | —02 | 04 | 00 | 68 | —10 | 06 |
| 11 | —35 | —37 | 02 | 11 | 08 | 22 | 25 | 17 |
| 12 | —53 | —05 | 06 | 07 | 06 | 25 | —59 | 12 |
| 13 | —17 | 49 | —27 | 24 | 18 | —12 | —04 | —08 |
| 14 | 13 | —92 | 19 | 04 | 05 | —04 | —05 | —03 |
| 15 | —102 | 10 | —07 | 08 | 05 | —02 | 05 | 03 |
| 16 | —59 | —58 | 20 | —03 | —14 | 00 | —11 | —16 |
| 17 | 11 | —34 | 35 | 48 | 27 | 06 | —13 | —36 |
| 18 | 01 | 46 | —21 | 03 | —08 | 26 | 03 | —62 |
| 19 | —11 | 02 | 09 | —21 | 14 | 31 | 00 | —20 |
| 20 | 02 | 36 | —55 | 27 | 09 | —11 | 15 | —20 |
| 21 | 36 | —13 | —05 | 22 | —17 | —23 | 42 | —08 |
| 22 | —17 | 40 | —15 | —25 | —06 | —18 | 02 | 01 |
| 23 | —17 | —06 | —28 | 05 | —12 | 30 | —11 | 18 |
| 24 | 30 | 14 | —15 | 25 | —34 | —05 | —25 | —15 |
| 25 | —08 | —17 | 00 | —11 | 46 | —15 | 08 | —19 |
| 26 | 34 | 24 | —29 | —09 | 05 | —13 | 18 | —45 |
| 27 | 08 | —18 | 04 | 22 | 36 | 09 | —07 | —13 |
| 28 | —29 | 14 | —25 | 00 | 64 | 01 | 12 | —20 |
| 29 | —28 | —08 | —28 | 06 | —14 | —01 | —29 | 06 |
| 30 | —44 | 10 | 03 | 12 | —45 | —23 | —17 | —11 |
| 31 | —24 | —40 | —21 | 05 | —34 | 05 | 03 | —20 |
| 32 | —41 | —15 | 06 | —25 | —32 | —10 | —17 | —05 |
| 33 | 39 | 48 | —34 | —11 | —03 | —18 | —53 | —32 |
| 34 | —05 | 05 | —08 | —15 | —27 | 05 | —38 | —22 |
| 35 | 27 | 04 | —77 | —16 | 19 | —03 | 15 | —24 |
| 36 | 01 | —15 | —78 | 08 | —41 | 04 | —13 | 09 |
| 37 | —22 | —10 | —19 | 03 | —40 | —45 | 00 | 00 |
| 38 | —44 | —04 | 68 | 00 | —31 | —01 | 08 | —25 |
| 39 | —13 | —25 | 02 | 93 | —07 | —05 | 04 | 00 |

for violations of the social code. This cluster of beliefs and attitudes is strikingly similar to the "Authoritarian Personality," as embodied in many items of the F scale (Adorno *et al.*, 1). Certain items (e.g., 12, 15, 30, and 32) give an impression of the authoritarian component of personality noted by Freud (4): "The super-ego seems to have made a onesided selection, and to have chosen only the harshness and severity of parents, their preventive and punitive functions, while their loving care is not taken up . . . ." Freud, of course, was describing a personality component of individuals in a society

TABLE 3
FACTOR I: AUTHORITARIAN BELIEFS AND ATTITUDES VS. HUMANITARIANISM

| | |
|---|---|
| 15. | There should be compulsory religious training in all schools. (1.02) |
| 16. | Some races are naturally inferior to others. (.59) |
| 9. | Religion offers the best hope for survival of our civilization. (.56) |
| 12. | Violent crimes should be punished by hard corporal punishment, such as whipping. (.53) |
| 30. | Children should be brought up to have more respect for their ancestors than they have now. (.44) |
| 38. | A science which conflicts with religion should not be taught in the schools. (.44) |
| 32. | Our conscience is the best guide for our behavior. (.41) |
| 33. | Friendships between Oriental and Caucasian people of opposite sex should (not) be encouraged. (.39) |
| 21. | Our treatment of criminals is (not) too harsh. (.36) |
| 11. | Interracial marriage should be discouraged. (.35) |
| 26. | Some sex education should (not) be given to all boys and girls of grade school age. (.34) |
| 5. | Conscientious objectors are traitors to their country and should be severely punished. (.31) |
| 24. | There will (not) be another world war in 25 years. (.30) |

which was predominantly authoritarian, a society which was later to give abundant evidence of the social effects of the beliefs and attitudes described by Factor I.

That such a factor should be the main dimension of description of social attitudes in Hawaii, a land long noted for benign attitudes toward minority groups, is at first surprising. However, the original Westernizing influence in Hawaii came in the form of missionaries from a puritanical New England, and later immigrant groups (principally Chinese and Japanese) came from societies which were highly authoritarian. The fact that, two and three generations later, Factor I should account for more variance than any other dimension, is doubtless related to the historical confrontation of these three authoritarian societies with humanitarian and democratic influences in American life. These are partly described by the other pole of Factor I, Humanitarianism.

Keehn's assertion (9) that local issues constitute a major determiner of attitude structure seems borne out by the relatively large influence of Factor II, Equalitarianism. While generally reputed to be a society where various racial-ethnic groups have accommodated themselves to one another with a minimum of difficulty, Hawaii has only recently, i.e., since World War II, provided genuine opportunities for advancement for Oriental groups. One result of this has been a general adoption of a *motif* of "Fair shares for all," which has increasingly characterized the advancement of second-generation

TABLE 4
FACTOR II: EQUALITARIANISM

14. Women *are* the equals of men in intelligence, organizing ability, etc. (.92)
13. Men and women doing the same work should receive the same pay. (.49)
33. Friendships between Oriental and Caucasian people of opposite sex should be encouraged. (.48)
18. Instruction in birth control should be given to all young people. (.46)
22. It is wrong that men should be permitted more sexual freedom than women. (.40)
31. The racial group to which I belong has (not) a higher standard of morality than have other groups. (.40)
2. It would be very interesting and desirable to have a family of another race living next door to me. (.37)
11. Interracial marriage should (not) be discouraged. (.37)
8. Before they are married, a man and woman should (not) have sex relations to see whether they are good sex partners. (.36)
20. All the professions (medicine, law, dentistry, etc.) should be open to women. (.36)
17. Divorce laws should (not) be changed to make divorce easier. (.34)

Japanese-Americans. Such a general attitude, while apparently subscribed to by the majority of non-Orientals as well, is, not surprisingly, a matter of degree among the better established groups, the Haoles (Caucasians) and Hawaiians, ranging from heated opposition to complete endorsement.

TABLE 5
FACTOR III: SOCIAL LIBERALISM VS. SOCIAL CONSERVATISM

36. As long as there are different races, we shall probably have some racial prejudice. (.78)
35. It would be very desirable for high school students to study and discuss controversial topics, such as sex and Communistic theory. (.77)
38. A science which conflicts with religion *should* be taught in the schools. (.68)
20. All the professions (medicine, law, dentistry, etc.) should be open to women. (.55)
17. Divorce laws should (not) be changed to make divorce easier. (.35)
33. Friendships between Oriental and Caucasian people of opposite sex should be encouraged. (.34)

Of the eight factors isolated, Factor III proved to be the least readily identifiable. Items 20, 33, 35, and 38 have a definite flavor of traditional liberalism. On the other hand, endorsement of easier divorce might be expected from persons of "liberal" views. The possibility exists that the forces behind liberal action in Hawaii have drawn a share of their energy from religious sources (the history of Hawaii offers some support for this), and that the attitude against easier divorce reflects this.

Item 36 is another matter, and not so easily explained away. This item

was inserted into the survey as a likely indication of conservative views: that is, the statement, if taken at face value, seemed (at least to the investigator) to reflect a resignation to the problem of racial prejudice. The item possesses an indication of "Political Conservatism" (see below), but, in respect to the factor under consideration, appears to indicate a "socially liberal" attitude. The only likely interpretation is that the item means quite different things to different people, and that, far from reflecting a passivity to the problem of racial prejudice, many who endorse the item seek to end race problems by eliminating race differences. In this connection, it should be noted that a rather high proportion of marriages in Hawaii cut across racial lines, and that the idea of a racially homogeneous Hawaii is acceptable in many quarters.

TABLE 6
FACTOR IV: RELIGIONISM

| | |
|---|---|
| 39. | Religion is probably (not) a greater source of trouble in the world today than it is a source of good. (.93) |
| 9. | Religion offers the best hope of survival of our civilization. (.70) |
| 17. | Divorce laws should (not) be changed to make divorce easier. (.48) |
| 5. | Conscientious objectors are (not) traitors to their country and should (not) be severely punished. (.40) |

Factor IV is clearly a dimension of approval or disapproval of religion as an institution. As such, it is substantially the dimension of Attitude Toward the Church, as measured by Thurstone and Chave (15). Interestingly, this appears as an independent dimension in the present study, whereas one might have hypothesized some relationship with other dimensions, particularly Factor I, Authoritarian Beliefs and Attitudes vs. Humanitarianism.

Factor V, Political Liberalism vs. Political Conservatism, is distinguished from Factor III, Social Liberalism vs. Social Conservatism, in that the former seems to be more concerned with political *means* which are not of immediate social significance. In this respect, one is reminded of the everyday observation that political conservatives constitute a most varied group (as do liberals, for that matter). The necessity of making a distinction between these two factors offers support for Vetter's (17) criticism of the notion of liberalism-conservatism as a unitary characteristic.

With the possible exception of Items 6 and 19, Factor VI suggests a dimension of Nationalism with the "150 per cent" patriot on the far end: here is the person who is clearly *pro patria,* believing that the "American way" is manifestly best. Not surprisingly, considering the main target of attack from overly pro-American groups in recent years, the issue of free speech for the dissenter provides the principal touchstone.

TABLE 7
FACTOR V: POLITICAL LIBERALISM VS. POLITICAL CONSERVATISM

| | |
|---|---|
| 28. | There should be far more political and controversial discussion on the radio than we have now. (.64) |
| 25. | The United Nations should become a world government, even if it meant giving up some of our own national power. (.46) |
| 30. | Children should (not) be brought up to have more respect for their ancestors than they have now. (.45) |
| 36. | As long as there are different races, we shall probably (not) have some racial prejudice. (.41) |
| 37. | The American way of life is (not) superior to any other way of life. (.40) |
| 27. | If an unmarried woman becomes pregnant, she should be permitted to have an abortion, if she desires it. (.36) |
| 24. | There will (not) be another world war in 25 years. (.34) |
| 31. | The racial group to which I belong has (not) a higher standard of morality than have other groups. (.34) |
| 32. | Our conscience is (not) the best guide for our behavior. (.32) |
| 6. | War seems (not) to be a part of human nature. (.31) |
| 38. | A science which conflicts with religion *should* be taught in the schools. (.31) |

TABLE 8
FACTOR VI: NATIONALISM

| | |
|---|---|
| 10. | A Communist who wishes to make a public speech should (not) be permitted to do so. (.68) |
| 6. | War seems (not) to be a part of human nature. (.58) |
| 1. | In our country we have the best example of government yet devised. (.51) |
| 37. | The American way of life is superior to any other way of life. (.45) |
| 8. | Before they are married, a man and woman should (not) have sex relations to see whether they are good sex partners. (.43) |
| 19. | If the government took over a big industry like the sugar industry, it would (not) likely lead to inefficiency, corruption, and stagnation. (.31) |
| 23. | People *should* be permitted to vote (even if they do not have) a minimum of intelligence and education. (.30) |

The aggressiveness with which such groups have operated seems contradicted by Item 6, yet this may simply reflect the isolationism latent in "America First" groups.

Of all the items taken over from the original list of Eysenck (2), Item 19 demonstrates best the cultural relevance of individual expressions of opinion. When Northern European samples are considered, endorsement of this item is indicative of conservatism; the present study finds it mildly suggestive of non-nationalistic views. Here again, the interpretation of Keehn (9) seems correct; that is, that attitudes become crystallized around political issues. In the United States, nationalization of industry is simply not an issue.

Factor VII is clearly the dimension of attitude described by James (6), and empirically demonstrated by Eysenck (2) and Keehn (9). It would

TABLE 9
FACTOR VII: TENDERMINDEDNESS VS. TOUGHMINDEDNESS

| | |
|---|---|
| 7. | The death penalty is wrong and barbaric; it should be abolished. (.64) |
| 12. | Violent crimes should (not) be punished by hard corporal punishment, such as whipping. (.59) |
| 33. | Friendships between Oriental and Caucasian people of opposite sex should (not) be encouraged. (.53) |
| 3. | Persons with serious hereditary defects and diseases should (not) be compulsorily sterilized. (.47) |
| 21. | Our treatment of criminals is too harsh. (.43) |
| 34. | Schools today *do* have enough discipline. (.38) |
| 29. | Immigrants to America should (not) give up their customs for American ways. (.29) |

seem, then, that this dimension may be quite basic, and at the moment appears as the only candidate for cultural invariance. If this should prove to be true, the reason for it is probably attributable to a widespread characteristic of humanity—aggressiveness. In one way or another, all societies must deal with the problem of individual aggressiveness, and Factor VII probably reflects the varying degree to which the individual's aggressive tendencies have been curbed and modified.

TABLE 10
FACTOR VIII: SEX PERMISSIVENESS

| | |
|---|---|
| 18. | Instruction in birth control should be given to all young people. (.62) |
| 26. | Some sex education should be given to all boys and girls of grade school age. (.45) |
| 4. | Sometimes war is the best solution of an international problem. (.42) |
| 8. | Before they are married, a man and woman should have sex relations to see whether they are good sex partners. (.41) |
| 17. | Divorce laws should be changed to make divorce easier. (.36) |
| 33. | Friendships between Oriental and Caucasian people of the opposite sex should be encouraged. (.32) |

With the exception of Item 4, all items in this group clearly imply a factor of permissiveness in respect to sex. Some of the items are similar to items which are related to Milton's (11) Permissiveness factor, obtained from a study of parents' child-rearing practices. The presence of Item 4 here may simply indicate that the holding of avant-garde views relative to sex requires a certain amount of aggressiveness.

## D. DISCUSSION

The overall results of the study demonstrate clearly the complexity of attitude structure. Since the mode of analysis is essentially conservative, the results imply that an adequate account of the domain of social attitudes will probably require more factor dimensions than those isolated in this study.

What then can be said for the "two-factor" solutions which have characterized many of the studies in this field? Perhaps the best label to place upon them is "pre-computer": that is, they are examples of studies undertaken before an adequate means of analysis existed. Anyone who has ever undertaken a factor analysis of a large matrix using a desk calculator will temper criticism of such studies with sympathy born of experience.

Another view of the simpler interpretations is that argued recently by Peterson (12). According to this view, a relatively crude analysis may yet have a certain amount of pragmatic value, even if it leads to descriptive dimensions which seem to be oversimplifications (e.g., "intelligence," "adjustment," "conservatism"). Certainly, no one would deny the usefulness of the Wechsler Adult Intelligence Scale, although it appears to be an instrument of considerable complexity (see Saunders, 13). However, the usefulness of such crude dimensions may simply reflect the even cruder criteria toward which they are directed. Certainly, the heuristic value of such oversimplification is limited. It is as though a biologist of the 18th Century, listening to Linnaeus, were to say, "Well, your taxonomy is very interesting, I will admit, but I am sure we can get along with a simpler scheme."

Another clear implication of the present study is that social attitudes are a long way from being culturally invariant. Not only are individual items culture-bound, reflecting different dimensions in different settings, but the dimensions themselves appear to vary from one culture to another. (It should be noted in this connection that the studies which have been reviewed in this article have all investigated predominantly Western—or Westernized—and literate people. It would be interesting to see the results of an investigation of attitude structure among the Ainu or Micronesians.) Of the factors isolated in the present study, only one would appear to be a candidate for the distinction of being "culturally invariant." This is the dimension of Tendermindedness vs. Toughmindedness, which has now appeared in a number of studies based upon samples which have varied somewhat in cultural background.

### E. Summary

Thirty-nine statements of social opinion, similar to the list used by Eysenck (2), were administered to a sample of 149 residents of Hawaii. A large majority of the sample was composed of second generation persons of Oriental ancestry.

Interrelationships among the items were determined and the correlation matrix factored, using Saunders' (14) criterion. Eight factors were identi-

fied: Authoritarian Beliefs and Attitudes vs. Humanitarianism, Equalitarianism, Social Liberalism vs. Social Conservatism, Religionism, Political Liberalism vs. Political Conservatism, Nationalism, Tendermindedness vs. Toughmindedness, and Sex Permissiveness.

That the analysis is considerably more complex than preceding analyses of social attitudes is attributed to the difficulties attending such work in the pre-computer era.

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# RELATIONS BETWEEN NEEDS AND BEHAVIOR AS MEASURED BY THE EDWARDS PPS AND INTERPERSONAL CHECK LIST*

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## A. INTRODUCTION AND PROBLEM

A critical problem for those psychologists interested in predicting human behavior is to elucidate the relations between needs and behavior. The Rorschach analyst, for example, can assert that his subject used aggressive concepts, but he cannot say with any confidence that the subject will *act* aggressively in the community; as a matter of fact, aggressive concepts may be given by individuals who have sadistic fantasies but who would not dare express these feelings in action, as well as by individuals who continually get in trouble because of their anti-social behavior.

An obvious approach to this problem is to find two tests, one of which measures needs and one of which measures behavior, and which consist of the same or similar variables. The Edwards Personal Preference Schedule (EPPS) (2) and the Interpersonal Check List (ICL) (3) appear to approximate these criteria. The EPPS provides scores on different motivational variables and the ICL supplies descriptions of characteristic modes of behavior.[2] Superficially, at least, similar variables are employed; that is, the EPPS includes needs for dominance, succorance, and aggression and the ICL measures managerial-autocratic, docile-dependent, and blunt-aggressive behaviors. Examination of the two tests suggested that ten of the fifteen EPPS variables should be related to the ICL categories.

Some support for the presumed correlation between EPPS and ICL variables was obtained in a pilot study carried out by one of the junior authors. With a sample of 36 college students, he found significant positive correla-

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[1] The authors would like to express their appreciation to Guido Borasio, Jay Butler, and Kenneth Nickerson for their helpful suggestions and criticisms.

[2] The contention that ICL self-ratings may be interpreted as indicating how individuals behave needs experimental support, especially since this view does not coincide exactly with Leary's interpretation of the level of self-description. Racine Brown and the senior author have completed a study which shows that ICL self-ratings and pooled ratings of an individual's behavior by others agree 80 per cent of the time, provided that one is dealing with normal (*i.e.*, non-psychiatric) groups.

tions between need Autonomy and the competitive-narcissistic variable, need Aggression and the blunt-aggressive variable, need Affiliation and the cooperative-overconventional variable, and need Nurturance and the responsible-overgenerous variable. However, need Achievement and the managerial-autocratic variable were significantly negatively correlated and the other five comparisons which were predicted to be related were not significantly correlated.

Leary (6) has criticized the procedure described above on the grounds that the single (octant) variables are not reliable enough to use in this manner. He has suggested that the Dominance (Dom) and Love (Lov) scores, each of which is a resultant of an algebraic manipulation of six (octant) variables, be used in attempts to relate the ICL scores to scores obtained from other tests. Furthermore, he indicated that it would be helpful to devise new scores, Competitiveness (Com) and Responsibility (Res), in order to analyze the ICL data more completely.

The present study may be considered as an extension of the pilot study with sample size increased to a considerable extent and more reliable ICL scores employed. The major purpose of the investigation is to determine the specific relations between EPPS scores and ICL scores in order to understand better the nature of the variables measured by these two inventories. This approach should yield information concerning the interrelations between motivating forces and action, particularly with regard to the question of whether the relation tends to be direct or inverse.

## B. Method

### 1. *Subjects*

The *S*s given the two tests described below were 95 undergraduate male students at the University of South Carolina who participated in this study at the request of the instructors of the general psychology course. One additional subject was eliminated because he checked exactly the same number of items on each of the different interpersonal variables, a procedure which would result in zero scores on all the main dimensions.

### 2. *Instruments*

The EPPS is an instrument which measures 15 relatively independent normal need variables and is so constructed that responding in the socially approved direction is minimized.

The ICL was especially constructed to measure conscious self-description and description of others, one of the levels of behavior studied by the Inter-

personal System of Personality (4, 5). This test consists of 128 items (*i.e.*, able to give orders, usually gives in, irritable, kind and reassuring) with 16 items for each interpersonal variable (*i.e.*, octant). The octants, in the usual order, are: 1, managerial-autocratic; 2, competitive-narcissistic; 3, blunt-aggressive; 4, skeptical-distrustful; 5, self-effacing-masochistic; 6, docile-dependent; 7, cooperative-over-conventional; and 8, responsible-overgenerous.

The ICL raw data are converted to Dominance and Love scores which are obtained by solving the following equations: Dom = (1 — 5) + 0.7 (8 + 2 — 4 —6) and Lov = (7 — 3) + 0.7 (8 — 2 — 4 + 6), in which the numbers refer to octants and the number of items the subject checks for each octant are substituted in the equation. To illustrate, if a subject checks eight Octant 1 items, three Octant 5 items, ten Octant 8 items, seven Octant 2 items, three Octant 4 items, and one Octant 6 item, the appropriate formula for Dom would be (8 — 3) + 0.7 (10 + 7 — 3 — 1), the solution of which would yield a raw score of 14.1. Raw scores may be positive or negative and vary through a wide range (—38.4 to +38.4).

The Competitiveness and Responsibility scores suggested by Leary were obtained by means of the following equations: Com = (2 — 6) + 0.7 (1 — 7 — 5 + 3) and Res = (8 — 4) + 0.7 (1 + 7 — 5 — 3).

Thus, four scores can be derived for each ICL. Each score is based on the number of items checked in six different octants. Since at least some of the same octant scores enter into the computation of the different main scores (e.g., Com), it would be anticipated that intercorrelations between some of these measures would be high. The proper ordering of these four dimensions, in terms of proximity, is Com, Dom, Res, and Lov. Table 1 shows the inter-

TABLE 1
INTERCORRELATIONS AMONG ICL VARIABLES

| | DOM | RES | LOV |
|---|---|---|---|
| COM | .74 | —.08 | —.78 |
| DOM | | .56 | —.23 |
| RES | | | .62 |

correlations between these measures. Inspection of this table shows high positive correlations between adjacent measures (e.g., Com and Dom) and high negative correlations between extreme measures (e.g., Com and Lov). The obtained correlations support the rational ordering of the measures given above.

### 3. *Procedure*

The ICL and EPPS were given with standard instructions. When the tests were completed, the authors analyzed them so that for each subject raw

scores on the 15 EPPS variables (and the Consistency score) and the four ICL variables were obtained. As a correlational analysis was planned, ICLs were inspected to determine the highest negative score on any variable. This was found to be —19.5, so 20 was added to every ICL Com, Dom, Res, and Lov score to convert all scores to positive values.

Predictions of the relationships between EPPS and ICL variables were made, based in part on the assumption that direct rather than inverse relations between these variables would obtain, in part on the intercorrelations among the ICL variables, and in part on the results of the pilot study. Generally speaking, EPPS variables which appear to correspond with ICL variables (e.g., need Dominance and Dom) were expected to be positively related to each other and EPPS variables which seem to refer to polar opposite traits from the ICL variables (e.g., need Aggression and Lov) were expected to be negatively related. In addition, it was anticipated that those EPPS variables which appear to be somewhat similar to ICL variables (e.g., need Nurturance and Lov) would be positively correlated and those EPPS variables which seem to be unlike, but not polar opposite from, ICL variables (e.g., need Autonomy and Lov) would be negatively correlated.

The specific predictions which follow from this general orientation are: (*a*) Competitiveness (Com) will be positively related to needs Autonomy, Dominance, and Aggression and negatively related to needs Deference, Affiliation, Succorance, and Abasement; (*b*) Dominance (Dom) will be positively related to needs Dominance and Exhibitionism and negatively related to needs Succorance and Abasement; (*c*) Responsibility (Res) will be positively related to need Nurturance and negatively related to need Aggression; and (*d*) Love (Lov) will be positively related to needs Affiliation and Nurturance and negatively related to needs Autonomy and Aggression. Theoretically, one would expect a significantly positive relation between need Achievement and Dom, but this prediction was not made as the pilot study's results were contrary to this expectation. No predictions were made for EPPS variables Order, Intraception, Change, Endurance, and Heterosexuality, as no similar variables appear to be involved in the ICL.

### C. Results[3]

The results of this study are given in Table 2 which shows the correlations between the EPPS and the ICL variables. Examination of the table reveals that, to a considerable extent, the predictions are confirmed and in no case

[3] The authors are indebted to G. G. Ramm, Assistant Professor of Electrical Engineering at the University of South Carolina, for making the university computer facilities available for the correlational analyses.

TABLE 2
CORRELATIONS BETWEEN ICL AND EPPS VARIABLES[a]

| EPPS Variables | ICL Variables | | | |
|---|---|---|---|---|
| | COM | DOM | RES | LOV |
| Achievement | .10 | .10 | .02 | —.09 |
| Deference | —.09 | —.02 | —.02 | .07 |
| Order | —.07 | —.07 | —.12 | —.03 |
| Exhibitionism | .15 | .22 | .20 | .01 |
| Autonomy | .35 | .11 | —.24 | —.40 |
| Affiliation | —.20 | —.05 | .18 | .22 |
| Intraception | —.07 | .01 | .12 | .13 |
| Succorance | —.26 | —.28 | —.10 | .14 |
| Dominance | .28 | .32 | .16 | —.14 |
| Abasement | —.20 | —.11 | .11 | .24 |
| Nurturance | —.23 | —.05 | .19 | .27 |
| Change | .09 | —.08 | —.17 | —.13 |
| Endurance | —.12 | .02 | .11 | .18 |
| Heterosexuality | .01 | —.06 | —.03 | —.02 |
| Aggression | .34 | .06 | —.34 | —.47 |
| (Consistency) | .00 | .02 | .09 | .09 |

[a] For N = 95; an *r* of .20 is significant at the .05 level, an *r* of .26 is significant at the .01 level.

are the results the opposite of those anticipated. The multiple predictions concerning Com and EPPS variables were all substantiated, except that need Deference was unrelated to Com. Also, need Nurturance, concerning which no prediction was made, was (not surprisingly) negatively related to Com. Three of the four Dom-EPPS predictions were confirmed, but need Abasement turned out not to be related to Dom. Res was negatively related to needs Aggression and Autonomy (the latter not being predicted), but just failed to reach a significant positive correlation with need Nurturance. All of the predictions for the Lov-EPPS relationships were confirmed and, in addition, need Abasement was positively related to the Lov measure.

No significant positive or negative correlations with ICL variables were found for any of the need variables (*i.e.*, Order, Intraception, Change, Endurance, and Heterosexuality) which appeared unrelated to the ICL variables. Nor was the EPPS validity measure, Consistency, found to be related to the ICL measures.

## D. Discussion

The results reported here lead to increased understanding of the variables involved in both the EPPS and ICL. That is, should a subject taking the ICL obtain scores stressing the Competitiveness variable, we could infer that he would have needs to be autonomous, dominant, and aggressive and he would not have needs to help others, be helped by others, be friendly toward

others, or take the blame when things go wrong. Also, if an individual should obtain an EPPS profile on which needs to be nurturant and affiliative were high and needs to be autonomous and aggressive were low, we could predict that his ICL scores would stress the Love variable.

Since it is desirable and necessary to make predictions *beyond* the tests, the results of this experiment may offer some help in this effort. The data suggest that, if in fact the EPPS is related to needs and the ICL is related to behavior, these two factors are directly related. In other words, an individual who has a need to be aggressive will act aggressively. No evidence to support the inverse relationship hypothesis was found.

On the other hand, a validity study of the EPPS Heterosexuality variable by the senior author indicates that the relationship between test scores and behavior is complex. Subjects were 42 student nurses for whom reliable ratings of positive and negative relations with men[4] were available. When the subjects were categorized in terms of those scoring at the 75th percentile or above versus those scoring at the 25th percentile or below on the Heterosexuality variable, chi square analysis showed that the high group was more likely to have positive relations with men ($p = .05$), a result which is consistent with the present findings. However, when subjects were categorized in terms of those scoring between the 60th and 74th percentiles versus those scoring between the 26th and 40th percentiles, the *low* group was found to have more positive relations with men ($p = .05$). These results suggest that a more subtle analysis of the present EPPS-ICL data, perhaps in terms of subjects whose results differ from those of the majority, might reveal similar complex relationships between the scores on the two tests.

Two assumptions which underlie the interpretation of the results of this study are: (*a*) ICL data are more closely related to behavior; and (*b*) EPPS data are more closely related to needs. We have offered the results of an unpublished study in support of the ICL-behavior relationship, but other investigators (7, 8) have found evidence which raises doubts as to the EPPS-needs (at least, needs in the TAT fantasy sense) relationship. One explanation, then, of our findings is that the EPPS and the ICL, which in the final analysis are both self-rating inventories, may be tapping very nearly the same level of behavior.

Edwards has shown (1) that probability of endorsement of an ICL item is highly positively related to the social desirability scale value of the item. Also, Silverman found (9) that, although the EPPS in general is not much

[4] If the student nurse was engaged, married, or dated frequently, her relations with men were considered to be positive; if the student was single and dated infrequently or not at all, her relations with men were considered to be negative.

affected by the social desirability factor, responses to certain variables (*i.e.*, Aggression, Autonomy, and Endurance) are related to social desirability. Therefore, another explanation of the direct, systematic relations among the different variables is that the subjects had a set to choose socially desirable items and to reject socially undesirable items on both tests.

## E. Summary

This study was designed to investigate the relations between scores on the Edwards Personal Preference Schedule and the Interpersonal Check List, tests which are purported to measure needs and behavior, respectively. Ninety-five undergraduate male students served as subjects.

Significant, systematic relationships were found between scores on the two tests, suggesting that the relations between them are direct and, to a certain extent, predictable. For example, it was predicted and confirmed that the ICL Love variable is positively associated with EPPS needs Affiliation and Nurturance and negatively associated with needs Autonomy and Aggression.

However, extrapolation of these results to statements about the relations between needs and behavior may not be warranted due to the relative lack of objective support for such interpretations of these tests. The possibilities that the tests measure very nearly the same level of behavior or are both influenced to some extent by the social desirability factor were presented as alternative explanations of the results.

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# SOME EFFECTS OF SOCIOMETRIC GROUPING UPON LEARNING IN A SECOND GRADE CLASSROOM*

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## A. INTRODUCTION AND PROBLEM

Sociometric testing was first introduced by Moreno (3), as a means of studying the social structure of children's groups. However, it has often been used as a technique for constructing compatible (or cohesive) groups on the assumption that such groups would be more productive than randomly composed groups. Several studies have demonstrated that a relationship between the sociometric structure of the group and productivity does exist, under certain conditions, in groups drawn from a variety of populations; for example, college students in laboratory settings (1, 7), Air Force bomber crews (5, 6), and industrial groups (8).

Although several investigators have shown that grade school children who are arranged into groups in accordance with their sociometric choices show more positive interpersonal behavior and less conflict than do those arranged in accordance with their sociometric rejections (4, 9), there seems to have been few studies of the effects of sociometric grouping upon actual learning in the classroom. The purpose of the present experiment was to investigate the relationship between sociometric structure (cohesiveness) and learning to spell in a second grade class.

## B. METHOD

### 1. *Subjects*

The *S*s for this experiment were drawn from the second grade of a heterogeneous classroom in a rural school. Their median IQ was 104 (Kuhlmann-Finch Test One) with a range of 74 to 124. Average age was 7.6 years. Both boys and girls were included in the study but sex was ignored both in the groupings and in subsequent analyses. Their socio-economic level was mixed, approximately 80 per cent being from very low income groups. The remainder were from lower middle class homes of a small town community with a population of about 1,000.

During the six months immediately preceding this experiment *S*s had had

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many group experiences in the classroom. Both formal and informal groupings for study and recitation were common occurrences.

### 2. *Group Task*

The words to be learned by the groups were taken from *Spelling Goals, Grade Two* (2). Four lists were formed, consisting of 31 words for two of the lists and 35 words for the other two. This was more than three times the maximum number of words usually assigned in a given unit. Each list was duplicated in manuscript writing which was familiar to all *Ss*.

### 3. *Procedure*

The investigation involved four phases, or test periods. In Phase I all members of the second grade were given a sociometric test which required them to list three persons in the class with whom they would most prefer to work and three with whom they would least prefer to work. Six groups of three persons each were then formed, varying in degree of cohesiveness. In three groups no member rejected any other member and some positive choices were represented, whereas in the other three no member chose any other member and some rejections were represented.

*Ss* were first tested on Word List 1 to determine their knowledge prior to study. Then each group member was given a copy of the word list and the group was allowed to study for 15 minutes. One day later they were again allowed to study for 15 minutes and immediately afterwards given a test to determine amount learned. On the third day, groups were again given a 15-minute study period followed by testing. During study periods the teacher kept written records of the behavior of the groups. At the end of each study period word lists were collected to prevent review at other times.

In Phase II, after the above procedure was completed, the same *Ss* were rearranged so that *Ss* who had formerly worked in the more highly cohesive groups were now assigned to less cohesive groups, and vice versa. The whole procedure was then repeated using a new 31-item word list.

Phase III began approximately one week after Phase II had been completed. A second sociometric questionnaire was administered and new groups were formed. The same procedure was followed as in earlier phases except that the word list consisted of 35 words.

In Phase IV *Ss* from Phase III were again rearranged so that each person changed from a high to a low cohesive group, or vice versa. Procedure was the same as in Phase III.

In effect, the four phases represent four replications with different groupings and different word lists.

## C. Results

The results of this experiment fall into two categories: (*a*) teacher observations; and (*b*) learning scores.

### 1. *Teacher Observations*

For purposes of comparison, the groups were divided into high and low cohesive groups, according to whether the groups involved choices or rejections. Teacher observations of the differences between kinds of groups were readily divisible into four classes:

*a. Group atmosphere.* High cohesive groups were friendly, cooperative and relaxed. Members praised each other for accomplishments. Low cohesive groups were hostile and aggressive, and frequently complained to teacher about each other's behavior. Members were delighted when others made errors.

*b. Form of study.* High cohesive groups began by planning how to study, and, once the decision was made, all members followed the plan. Low cohesive groups typically began by rushing immediately into individual testing with no preliminary exchange of ideas and seemingly no real plan for study.

*c. Leadership behavior.* In both high and low cohesive groups, strong and/or aggressive members assumed the leadership role; however, in the high cohesive groups the leader behaved in a friendly, "democratic" manner, whereas in the low cohesive groups the leader's behavior was described as "autocratic, antagonistic, sneering, and bossy."

*d. Non-task behavior.* In the first two study periods, high cohesive groups devoted most of their time to task activities (studying), but in the third period a tendency to play appeared, accompanied by a decrease in study. In low cohesive groups almost the opposite happened. By the third period conflicts had decreased, and *S*s tended to isolate themselves for individual study.

Although these data are subjective in nature, they reveal clear differences between the two types of sociometric groups, and are important for understanding the more objective results given below.

### 2. *Learning and Cohesiveness*

Learning scores were computed for each *S* following each test. In each case, the score was percentage of words learned, using the pre-test as a baseline. For example, if a given *S* misspelled 15 words on the pretest, but only five on Test 1, his score would be 67 per cent; if on Test 2 he missed only two words, his score for that test would be 83 per cent. The group score was computed as the mean of the three individual scores. Group scores were

correlated with the cohesiveness index which was computed by assigning rejections a weight of one, no choice a weight of two, and positive choices a weight of three. Correlation coefficients (Rhos) are given in Table 1.

TABLE 1
RANK ORDER CORRELATIONS (RHO) BETWEEN COHESIVENESS INDICES AND GROUP PERFORMANCE SCORES

| | Test 1 | Test 2 |
|---|---|---|
| Phase I | +.54 | +.34 |
| Phase II | +.56 | —.56 |
| Phase III | +.16 | —.27 |
| Phase IV | +.56 | +.47 |
| Average Rho | +.47* | —.01 |

* $p < .05$.

The correlations between cohesiveness and learning scores were uniformly positive for Test 1, but are inconsistent for Test 2. Although no single correlation is significant because of the small number of observations, the average Rho for Test 1 is significant at better than the 5 per cent level of confidence. Furthermore, it is significantly different from the average Rho for Test 2 ($p < .05$). We may conclude, then, that learning to spell words and cohesiveness were correlated positively during the earlier phases of interaction, but were unrelated at the end of the third test period.

## D. Discussion

The results from this investigation clearly support the findings of previous investigations in that high cohesive groups were friendly, cooperative, democratic, relaxed, etc., as compared with low cohesive groups which were unfriendly, competitive, aggressive, and so on. However, the results do not offer strong support for the hypothesis that cohesive groups are more efficient (learn more) than non-cohesive groups. Rather, the results suggest that the effects of cohesiveness upon performances may be highly temporary, at least in the second grade classroom.

The reasons for this finding are suggested by the teacher observations reported above. During the early study periods high cohesive groups do appear to be better organized, devote more of their time to study and less to conflict, and consequently learn more than do low cohesive groups. By the third study period, however, high cohesive group members apparently feel that they have accomplished the task (or have learned as many words as they are capable of learning, which is a distinct possibility), and so devote more of their time to non-task activities. On the other hand, during the early study periods low

cohesive groups spend much of their time and energy in interpersonal conflict; by the third period they seem to have decided that they cannot work together and each member works as an individual. Individual study thus is as effective as, or more effective than, study in cohesive groups in which much time is given to social activities.

Whether or not this explanation is correct, it is obvious that many factors are involved in the question of the effects of sociometric grouping upon learning efficiency. Extensive research is indicated with regard to time and order effects, type of material to be learned, and similar variables.

## E. Summary

Subjects drawn from a second grade class in a rural school were divided into six groups of three persons each on the basis of sociometric choices. Each group was then given three 15-minute study periods on a 31-item word list, a test being given at the end of the second and at the end of the third study period. The groups were then rearranged so that *S*s formerly in high cohesive groups were now in low cohesive groups, and vice versa. The study and testing procedure was repeated. Finally, a new sociometric test was administered and the procedure outlined above was repeated, the one difference being that 35-item word lists were used.

The results supported earlier findings that cohesive groups are more democratic, friendly, and cooperative than are low cohesive groups. They also showed that learning to spell correlated positively with cohesiveness in early phases of interaction, but not in later phases. This finding was interpreted as being due to increased sociability in the high cohesive groups during the third study period, coupled with a tendency for the low cohesive group members to isolate themselves for individual study.

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# QUANTITY CONCEPTIONS IN COLLEGE STUDENTS*

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## A. PURPOSE

This investigation of quantity conceptions in college students follows upon two similar studies, one with elementary school children (1) and the other with junior and senior high school students (2). The initial investigation with elementary school children was an attempt to systematically replicate Piaget's (1949) experiments on children's conceptions of mass weight and volume. Results of the initial replication study agreed with Piaget's findings that the abstract conception of mass was attained (75 per cent passing) by the age of seven and the abstract conception of weight by the age of nine. But the replication findings did not agree with Piaget's age of 11-12 for the attainment of the abstract conception of volume. In the first replication study only 27 per cent of the 11-12-year-old youngsters had an abstract volume conception.

The failure to confirm Piaget's age for the attainment of the volume conception in elementary school children led to the second replication using 12-18-year-old junior and senior high school students. Results of the second study showed that of the 469 students tested 87 per cent had abstract mass and weight conceptions but only 47 per cent had an abstract conception of volume.

In the second replication it was also found that the attainment of the volume conception: (*a*) had a low but positive and statistically significant correlation with IQ; (*b*) increased regularly with age from 12 to 18; and (*c*) was more frequent, at all ages, in boys than in girls. One purpose of the present study was to determine whether these findings would also hold true for college students. A second purpose was to see whether hypotheses (based on Piaget's theory) used to explain the results with adolescents could also explain the results with young adults.

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## B. Method

### 1. *Subjects*

One hundred and fifty-one Boston University[2] and 89 Wheaton College students were tested. All the students were enrolled in introductory or developmental psychology courses. The age range of the students was from 17 to 37. For the girls the median age was 19, while for the boys the median age was 20.

### 2. *Procedure*

The procedure was exactly the same as that used previously with junior and senior high school students (2). For a more detailed description of procedure than the abbreviated account given below the reader is referred to the earlier paper.

The criterion of an abstract conception of quantity, according to Piaget, is the child's judgment of its conservation, its sameness despite apparent change. For example, in one of Piaget's experiments he showed his subjects two identical clay balls, one of which was subsequently rolled into a sausage. Those children who judged the mass weight or volume of the sausage as conserved (the same) were said to have an abstract conception of quantity. The same technique (adapted to group administration) and criterion were used in the present study.

### 3. *Controls*

To avoid verbal misunderstandings students were encouraged before the experiments to read the scale on which the two balls were placed and to voice their questions or doubts. To insure the reliability of responses four types of question: identity, prediction, judgment and explanation, were asked about each quantity. Finally, as a check on the volume test, students were asked to predict whether the water levels in two identical glasses filled equally high would rise equally or unequally if the "sausage" were placed in one and the ball in another.

### 4. *Scoring*

A test was considered passed only if the student correctly identified, predicted, judged and explained the conservation of a quantity.

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[2] The writer is indebted to Drs. Irving I. Wolfe and Joyce Hoffman for the generous permission to use their B. U. students as subjects for the study.

## C. Results

### 1. *Controls*

All of the control procedures indicated that students who failed the conservation tests did so because of inadequate conceptions and not because of verbal or other misunderstandings.

### 2. *Questions*

The students who failed the volume test all agreed that initially the two balls were equal in volume. But they predicted, judged and explained that the volume of clay changed with its shape. This was true even though the same students had, on previous pages, written that mass and weight were conserved either because: (*a*) nothing was added or taken away; (*b*) changing the shape did not change the amount; or (*c*) what the sausage lost in width it gained in length and therefore was the same as the ball.[3] There was no question that the students understood the problem with regard to mass and weight. They simply failed to generalize their judgments, predictions and explanations to the conservation of volume which was treated as an entirely different problem.

> Ruth (17) "For two objects to have the same volume they must be identical in every respect. They aren't; therefore, they don't take up the same volume."
>
> Pol (18) "The volume of a cylinder does not equal the volume of a sphere."
>
> Rita (18) "No, because one is round and one is long—different amounts of space are taken up."
>
> Warren (21) "The density of the two objects now differ. The sausage has a greater volume than that of the ball, even though they still weight (sic) the same."
>
> Allen (20) "One ball can be made more compact than the other one; therefore, they are not the same volume."

These answers, though couched in sophisticated terms, still reflected the same difficulty experienced by elementary and high school youngsters in discovering the conservation of volume. These college students were still unable to dissociate their sensori-motor (compact, dense) and perceptual length impressions from their logico-mathematical conceptions of volume. They continued to judge by appearances rather than by logic.

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[3] The same three explanations were given by elementary school children and junior and senior high school students.

### 3. *Water Displacement*

Nearly a third (30 per cent) of the students tested said that the amount of water displaced depended upon the weight of the object submerged.

Pol (18) Pol wrote that the "volume of a cylinder does not equal the volume of a sphere" but she wrote that when they were submerged, "the water will rise to equal levels for the weights of the ball and sausage are equal."

Joan (18) wrote that volumes were unequal because "the same weights can be spread out in different ways, to cover different amounts of space." She wrote of the water levels "the water will rise equally high; water displacement is determined by the weight placed in it, not the shape of the object."

These examples could be multiplied but suffice to show that the sensorimotor and perceptual impressions still played a leading role in the quantitative thinking of a substantial percentage of the college students tested.

### 4. *Subjects Judging the Conservation of Quantity*

Of the 240 college students tested 92 per cent had abstract conceptions of mass and weight but only 58 per cent had an abstract conception of volume. A test for the significance of this difference gave an $X^2$ of 100.1 which was significant beyond the .01 level.

### 5. *Volume Conservation and IQ*

For high school students there was a low, positive correlation between IQ and attainment of the volume conception. No IQ data were available for the college students in the present study. It seems reasonable to assume, however, that the mean IQ for the college group was higher than the mean of 100 for the high school group. The difference in total per cent of college students (58 per cent) and high school students (47 per cent) passing the volume test may be, in part, attributable to the difference in mean IQ between the two groups.

### 6. *Volume Conservation and Age*

For both high school boys and girls there was a regular increase with age in the per cent of students passing the volume test. In the present study there was no systematic increase with age in the per cent of college men attaining the volume conception. For women, however, there was a statistically significant increase with age in the per cent of students with abstract volume conceptions. The trends were the same for both the Wheaton and B.U. women as shown in Table 1.

TABLE 1
PER CENT OF FEMALE STUDENTS ATTAINING THE VOLUME CONCEPTION FOR TWO SCHOOLS AND THREE AGE LEVELS

| | N | | | Age | Per cent passing | | |
|---|---|---|---|---|---|---|---|
| | B.U. | W.C. | T | level | B.U. | W.C. | T |
| | 27 | 28 | 55 | 17-18 | 37 | 46 | 42 |
| | 20 | 30 | 50 | 19 | 55 | 43 | 48 |
| | 17 | 31 | 48 | 20-24 | 65 | 68 | 69 |
| T | 64 | 89 | 153 | | 50 | 53 | 52 |
| | | 7 | | | | | 8.42* |

* Significant at the .02 level.

### 7. *Volume Conservation and Sex*

Of the 87 men who participated in the present study 74 per cent passed the volume test. Of the 153 women participating only 52 per cent had an abstract conception of volume. The $X^2$ for the difference was 11.08 and was significant beyond the .01 level. This significant difference in favor of college men with respect to the attainment of the volume conception agreed with the results previously obtained with junior and senior high school students.

## D. DISCUSSION

The results of the present study with college students were in keeping with two of the findings previously obtained with junior and senior high school students. In both adolescents and young adults fewer than 75 per cent had abstract conceptions of volume. Likewise, for both groups more males than females had abstract volume conceptions.

In the previous paper (Elkind) the failure of so many students, both boys and girls, to attain the volume conception was explained by a developmental hypothesis. In Piaget's theory the age at which children are maturationally and experientially ready for attaining the volume conception (11-12) is also the age at which formal operations (internalized actions) appear. These operations are concerned with conceptualizing possibilities, ideals and values, and so divert the young person's interest from conceptualizing the immediate physical environment. A diminution in the per cent of spontaneously attained volume conceptions is the result.

The difference between the boys and girls attaining the volume conception was explained on the basis of a social hypothesis. The age of 11-12 (the age of readiness for the volume conception) is also the age at which young people adopt social roles. It was assumed that in adolescence social roles take over the direction of conceptualizing activity and that certain roles (academic, professional, scientific) were more conducive than others to attaining the

volume conception. Both hypotheses can be equally well applied to the results with college students.

What remains to be explained is the unexpected finding of the present study that the per cent of volume conceptions increased regularly with age for college women but not for college men. This was not true for the high school students for whom the increase with age held for both sexes. The remaining discussion will attempt to account for this difference between high school and college students.

In the junior and senior high school students the per cent of abstract volume conceptions increased with age for both men and for women. This relation was qualified by the fact that the number of students who dropped out of school also increased with age. Those students remaining in the higher grades were, therefore, a much more select sample than the sample in the lower grades which contained many potential drop-outs. It seems reasonable to assume that relation of age to attainment of the volume conception really meant that those students who did not drop out of school were more likely, than those who did, to have attained an abstract volume conception. It seemed likely also that those students who remained in school had adopted scientific, academic or professional roles which were conducive to the attainment of the volume conception.

For the college students of the present study the relation between age and volume conservation held only for the women. This finding, however, is not hard to explain in view of the social role hypothesis.

The majority of men who enter college are there because they have really adopted academic, scientific or professional roles which require further education. Most college men have, therefore, adopted roles conducive to the attainment of the volume conception. One would not expect to find a relation between age and volume conservation in college men since the sample is homogeneous (with respect to roles conducive to volume conservation) at all college age levels.

The same is not true, however, for college women. Many young women enter colleges or universities not because of genuine academic, professional or scientific roles, but rather because of the social opportunities. (The evidence for this is that a much higher percentage of women than of men change schools and drop out of school before graduation.) This means that in the first years of college, the sample of girls is likely to be almost as heterogeneous with respect to social roles as it was in high school.

At the higher college (and age) levels, however, the sample is likely to be increasingly select. Those women who remain in school are more likely

than those who have dropped out, to have adopted genuine academic, professional or scientific roles. According to the hypothesis presented here such intellectual roles are conducive to the attainment of the volume conception. One might expect, therefore, that as the percentage of female students having genuine intellectual roles increased (with age and school level) there would also be an increase in the percentage of abstract volume conceptions. This is just the relation obtained in the present study.

This new finding with college women provides further evidence in favor of the hypothesis that some social roles are more conducive than others to the attainment of quantity conceptions.

## E. Summary

Two hundred and forty college students were tested for their conceptions of mass, weight and volume in a replication of studies previously carried out with children and adolescents. While 92 per cent of the college students had abstract conceptions of mass and weight only 58 per cent had abstract conceptions of volume. The per cent of men was significantly greater than the per cent of women having an abstract volume conception. The only finding at variance with the results from high school students was that in college women, but not in college men, the per cent of volume conceptions increased with age. This finding was, however, in keeping with the hypothesis (used to explain either of the results) that some social roles are more conducive than others to the attainment of the abstract conception of volume.

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# A PERVASIVE VALUE: CONVENTIONAL RELIGIOSITY*[1]

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## A. INTRODUCTION

In the study of the authoritarian personality (1, 4, 5), attention is given to examination of religious conventionalism. In general, however, psychological interest has centered on the more abstract and inclusive concepts of authoritarianism and ethnocentrism. In the examination of these concepts, explicit attention has occurred involving religious institutional values, such as the work of Rokeach (6). Relatively little attention has been given, however, to the religious conventionalism scale.

## B. DISCUSSION

In a recent analytic study of value orientations (2, 3), no factor directly resembling the content of authoritarianism or of ethnocentrism occurred. However, among the factors with clearest definition was one whose content appeared to be related to the religious conventionalism scale. In the development of an experimental form called the General Orientations Profile (GOP) a four item scale was constructed and called *Conventional Religiosity*. Three of the items in this scale are direct statements of support for organized religion. These were as follows: Everyone should believe in and practise some religion. All children should attend Sunday school or have some other opportunity to learn about their religious heritage. The best way to foster the moral development of civilization is through organized religion. The fourth item that was included was one that was more strongly ordered in the factor than additional items on religion. The pertinence of the item to conventional Western morality is obvious: A woman should not have sexual relations until she is married.

In the previous reports of the GOP, personality inventory scales were correlated to the GOP scores for college male and female samples. In this

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1 The data for this analysis were made available through the project, "The Variables and Conditions of Small Group Interaction," at New York University. The original source of subjects was through the New Jersey Neuropsychiatric Institute. This research was supported in whole or in part by the U. S. Air Force under contract AF 49 (638)—195 monitored by the Air Force Office of Scientific Research of the Air Research and Development Command.

report, findings from a replication with male prisoners and mental patients are presented for the *Conventional Religiosity* score. The findings that also were previously reported as statistically significant correlates to the Edwards Personal Preference Schedule or the Cattell Sixteen Personality Factor Questionnaire for the male college sample are marked by an asterisk next to the column for the total sample in Table 1. The level of significance utilized

TABLE 1
PERSONALITY SUBSCALE CORRELATES OF CONVENTIONAL RELIGIOSITY

| | Male prisoners N = 31 | Male mental patients N = 16 | Total males N = 47 |
|---|---|---|---|
| *Cattell 16 P.F. Test* | | | |
| E—Dominance or ascendance | —.27 | —.18 | *—.45** |
| G—Character, superego strength | *.41* | .21 | *.41* |
| I—Sensitive | —.29 | —.42 | *—.34** |
| M—Bohemian | —.26 | —.11 | *—.35** |
| $Q_1$—Radicalism | *—.58* | —.14 | *—.48** |
| $Q_2$—Self-sufficiency | —.20 | —.39 | *—.36** |
| *Edwards P.P.S.* | | | |
| 2 Deference | —.02 | —.24 | *.28** |
| 3 Order | *.57* | .08 | *.60** |
| 5 Autonomy | *—.58* | —.06 | *—.59** |
| 10 Abasement | *.37* | .02 | *.31* |
| 11 Nurturance | .23 | *.66* | *.32** |
| 12 Change | *—.50* | —.08 | *—.42** |
| 14 Heterosexuality | —.25 | —.14 | *—.41** |
| 15 Aggression | —.13 | —.33 | *—.28** |

*Note:* Correlation coefficients italicized satisfy a symmetric hypothesis test at the .05 level for the appropriate numbers of degrees of freedom.
* Previously reported relationships in a male college sample (Francesco, 1960).

here corresponds to a symmetric test at the .05 level for the appropriate number of degrees of freedom.

In terms of the correlates found in these personality inventories, *Conventional Religiosity* must be judged to be pervasively involved in the scales of the Cattell 16 P.F. Test and the EPPS. Excluding the intelligence measure of the Cattell 16 P.F. Test, there are 30 scales involved in this examination, and 14 of these show significant correlations to the *Conventional Religiosity* score. Twelve of these 14 significant correlations are previously reported in the male college sample.

Examination of the prisoner and mental patient subsamples indicates a closer correspondence of the coefficients for the male prisoners to the total, and this is as it should be considering the relatively larger proportion of cases

in this category. Six of the coefficients for the prisoner data are significant, and only one for the mental patient data.

In terms of content, the two largest correlates occur for EPPS scales; a positive correlation with EPPS Order and a negative one with EPPS Autonomy. The content of conservatism may be viewed in the negative correlations with the Cattell 16 P.F. Test scales M—Bohemian, $Q_1$—Radicalism, and the EPPS Change scale, and the positive correlation with the EPPS Order scale. The content of E—Dominance appears to be negatively related to *Conventional Religiosity* in the Cattell 16 P.F. Test, and while the EPPS Dominant scale is not similarly correlated, the EPPS Aggression scale is. Parallel to the large EPPS Autonomy negative correlation is the negative correlation with $Q_2$—Self-sufficiency in the Cattell 16 P.F. Test.

Interpreting these correlations broadly, thus, there appear to be three main clusters of content: conservatism and orderliness; lack of dominance or aggression; and lack of autonomy. Possibly one other organizing concept may be found here and it would be intrinsically appropriate for interpretation of *Conventional Religiosity*. In particular there is a substantial correlation of the Cattell 16 P.F. Test G—Character, super-ego scale with *Conventional Religiosity*. Possibly related to this concept are the EPPS Order, Deference, Abasement, and Nurturance scales. The negative correlation of EPPS Heterosexuality with *Conventional Religiosity* may be a reflection of the relative lack of male interest in religious matters common in Western culture. Similarly the negative correlation of the Cattell 16 P.F. Test I—Sensitive scale with *Conventional Religiosity* may be a concomitant of a low score on EPPS Heterosexuality.

## C. Summary

In summary, thus, *Conventional Religiosity* as measured here appears to be pervasively related to personality inventory scales. It is possible to view these relationships as an opportunity to understand *types* of individuals in terms of their personality characteristics. On the other hand, from a point of view of understanding behavior it may be convenient and important to stress the institutional bases of behavior. Knowing the religious orientation of a client, a clinician may be able to anticipate important sectors of personality concomitants. The findings on a relatively specific institutional orientation reported here suggest that investment in research on institutional value orientations and personality correlates may be extremely fruitful.

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# ATTITUDES TO CARYL CHESSMAN AS A FUNCTION OF HIS REPRIEVE AND EXECUTION*

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## A. INTRODUCTION

On May 2, 1960 the State of California executed Caryl Chessman, alleged "Red Light Bandit." The execution climaxed a legal battle of several years' duration, during which Chessman's execution date had been changed repeatedly. In February, 1960 he had been granted a delay by the Governor, only hours before his scheduled execution.

The result of these events was to create a complex issue which attracted widespread public attention and much controversy. The aim of the present study was to attempt to assay changes in attitude toward Chessman which might be related to various steps in the progress of his case during the last few months prior to, and including his execution.

The data for this study are based on the responses of 216 college students who completed a 30 item attitude scale developed by the present authors. The scale was developed in the manner of Thurstone and Chave (2) and was intended to place attitude toward Chessman on a scale ranging from hostility to sympathy. Most of the material which follows will be based on item analyses, rather than on shifts in mean scores on the scale.

It was hypothesized that should Chessman be granted a reprieve at any time during the study, scores on the attitude scale taken after such an announcement would show a shift toward increased hostility to Chessman. It was further hypothesized that following his execution scores would show a shift toward increased sympathy.

## B. SUBJECTS AND PROCEDURE

Sub-groups of various sizes from among the 216 students mentioned above completed the scale at different times between early February, 1960, and the hour following the execution. Specifically, 56 students completed the scale 11 days prior to the scheduled execution date in February. Another group of 40 completed the scale 10 days later, but before the reprieve had been granted. This same group took the scale one hour before the actual execution

* Received in the Editorial Office on August 29, 1960.

in May, but while appeals for delay were still in progress. A new group of 39 also completed the scale at that time. A group of 52 students completed the scale on the morning following the mid-night reprieve in February, and this same group completed the scale again one hour after the execution. The students were all taking elementary psychology courses, and all were informed of the latest developments in the Chessman case before completing the scale.

### C. Results and Discussion

Shifts in mean scores for the items endorsed showed no significant change at any time during the course of the study. In accordance with the hypothesis, the highest hostility scores were obtained immediately following the reprieve, but the increase was not statistically significant. Changes following the execution were not in accord with the initial hypothesis. Item inspection revealed that the chief reason for the failure to get shifts in central tendency seemed to arise from the general avoidance of extreme statements of any sort, throughout the entire study. Nearly all of the students restricted their endorsements to statements which had a minimum of affective tone, and therefore endorsed items which had been given median weights by the standardization judges. Further item inspection however did reveal changes which seemed logically related to events in the Chessman case, and these are described below.

By way of general overview, as indicated, at no time was there any dominant endorsement of statements taken by the standardization judges to indicate either strong hostility or strong sympathy. Thus the statement "Chessman is an example of the lowest form of animal life" was never endorsed by more than two per cent of any sub-group. Conversely, the statement "Chessman got a raw deal" was never endorsed by more than five per cent of any sub-group.

There was general assumption of his guilt throughout the study, although this tended to increase with time. The item "Chessman is probably guilty of the crimes of which he is accused" was never endorsed by less than 75 per cent of any sub-group. In assuming his guilt, there was little evidence of a deterministic set, or one which might account for his behavior in psychologically sophisticated terms. Thus the statement "Chessman was powerless to regulate his behavior" was never endorsed by more than five per cent of any sub-group and the statement "The only purpose served in executing Chessman is revenge" was never endorsed by more than 25 per cent of any sub-group.

The two major events which took place in the case during the course of

the study were the reprieve granted just prior to the execution scheduled in February, and the execution itself in May. In the material which follows attention will be focused on items showing the greatest change, or peak of endorsement or rejection immediately following these two events.

Table 1 indicates those items which reached either their peak of endorsement or rejection immediately following the granting of the February delay. At that time many people felt that Chessman would never be executed, and this was made clear to the subjects completing the scale.

TABLE 1

ITEMS SHOWING GREATER FREQUENCY OF ENDORSEMENT OR REJECTION FOLLOWING REPRIEVE THAN AT ANY OTHER TIME

*Highest frequency of endorsement:*

The attention Chessman has received in the courts inspires my faith in our judicial system. (27 per cent)
He should not have been granted even his first stay of execution. (20 per cent)
The courts which granted Chessman delays are soft-headed. (08 per cent)
Granted that Chessman is ill, society must still be protected from him. (62 per cent)
Legal precedent does not justify his execution. (21 per cent)
Chessman's books have proven him an asset to society. (17 per cent)
There is still real doubt concerning his guilt. (23 per cent)

*Lowest frequency of endorsement:*

All his legal maneuvers are justified. (44 per cent)
The only purpose served in executing Chessman is revenge. (11 per cent)

Further light on the impact of the delay upon responses is shown in Table 2, which records those items showing a change in frequency of endorsement between the group completing the scale 12 hours before the announcement of the reprieve and the group completing the scale the next day. The items listed showed a shift at or near the .05 level of confidence.

TABLE 2

ITEMS SHOWING SIGNIFICANT CHANGE IN FREQUENCY OF ENDORSEMENT AFTER REPRIEVE COMPARED WITH MEASUREMENT IMMEDIATELY BEFORE

*Items showing a percentage increase* (amount of change indicated in parenthesis):

The attention Chessman has received in the courts inspires my faith in our judicial system. (17 per cent)
Chessman is probably guilty of the crimes of which he is accused. (12 per cent)
Chessman is no less guilty, just because he's clever. (13 per cent)
If any criminal should be executed, it should be Chessman. (13 per cent)
He should not have been granted even his first stay of execution. (17 per cent)
Granted that Chessman is ill, society must still be protected from him. (24 per cent)

*Items showing a percentage decrease:* none.

Study of Tables 1 and 2 strongly suggests the increased hostility which had been hypothesized. At the same time, this is partially mitigated by other

items which seem to support the delay. Thus at this time is found the highest frequency of endorsement of the items raising question over Chessman's guilt, or the justification of his execution from the standpoint of legal precedent. This apparent division of opinion coincides with impressions which came from public news media at the time, and is in contrast to reactions following the execution, as these are measured from responses to the attitude scale.

Table 3 presents data comparable to Table 1, except dealing with items showing maximum or minimum endorsement following the execution.

TABLE 3

ITEMS SHOWING GREATER FREQUENCY OF ENDORSEMENT OR REJECTION FOLLOWING EXECUTION THAN AT ANY OTHER TIME

| |
|---|
| *Highest frequency of endorsement:* |
| Chessman is probably guilty of the crimes of which he is accused. (89 per cent) |
| Chessman is no less guilty, just because he's clever. (77 per cent) |
| Even though we seek to understand him, we cannot overlook the brutality of his crime. (66 per cent) |
| The Chessman issue has been talked about too much. (54 per cent) |
| A man of his type does not deserve to live in society today. (26 per cent) |
| *Lowest frequency of endorsement:* |
| I don't know anything about Chessman. (02 per cent) |
| Legal precedent does not justify his execution. (07 per cent) |
| There is still real doubt concerning his guilt. (10 per cent) |

Table 4 lists those items showing a change of frequency of endorsement between the group completing the scale just prior to the execution and those completing it immediately afterwards. Only those items are listed whose change reached or closely approached the .05 level of confidence.

It appears that all of these items are in the direction of justifying the execution. In contrast to the situation following the reprieve, there is no indication of any new support for items critical of the execution.

As a further means of analyzing the changes following the delay and the execution, two of the present authors attempted to independently identify items in the scale which could logically be endorsed by a person hostile to Chessman and supporting his execution, and by contrast, those items in the

TABLE 4

ITEMS SHOWING SIGNIFICANT CHANGE IN FREQUENCY OF ENDORSEMENT AFTER EXECUTION COMPARED WITH MEASUREMENT IMMEDIATELY BEFORE

| |
|---|
| *Items showing a percentage increase* (amount of change indicated in parenthesis): |
| Chessman is probably guilty of the crimes of which he is accused. (11 per cent) |
| A man of his type does not deserve to live in society today. (14 per cent) |
| Granted that Chessman is ill, society must still be protected from him. (21 per cent) |
| *Items showing a percentage decrease* (amount of change indicated in parenthesis): |
| There is still real doubt concerning his guilt. (12 per cent) |

scale which seemed to justify a delay or prevention of the execution. Twelve items were agreed upon by the two judges as supporting the execution and 11 which repudiated it. Items were excluded which seemed entirely neutral or did not bear on the execution. The answer sheets for those subjects completing the scale both immediately after the reprieve and immediately after the execution were then rescored by simply tallying the frequency with which items on these two sub-scales had been endorsed in each protocol. Giving the "pro-execution" items a positive value of one each, and the "anti-execution" items a negative value of one each, an algebraic sum was computed for each protocol. Assuming greater variability in attitude following the reprieve, it was hypothesized that the sigma of the distribution of scores after the reprieve would be larger than that following the execution. This proved to be true at considerably better than the .01 level. In short, there was a considerably narrower range of opinion following the execution, and that of a nature as to justify the execution. Following the reprieve there was greater heterogeneity of opinion regarding the justifiability of the Governor's action.

The situation following the reprieve was considerably different than that after the execution. Following the reprieve there were several possible future courses of development. The variable reactions to the reprieve probably reflect, in part, these alternatives. Following the execution however, the doors to future developments were closed, and the result appears to have been a consolidation of attitude which served to justify the fait accompli. Such a shift appears similar to what one might predict from Festinger's theory of cognitive dissonance (1).

## D. Summary

Students were tested with an attitude scale, to evaluate their reactions to Caryl Chessman, during the several months prior to and including his execution. Following the granting of a reprieve there was considerable variability of student reaction, some condemning the reprieve, others justifying it. Following the execution however, there was an apparent consolidation of attitude, in the direction of justifying the action taken.

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# BOOKS

Now that there is a special *APA* journal completely devoted to the publication of book reviews, it is no longer necessary that other journals emphasize such publication. It has always been our conviction that book reviews are a secondary order of publication unless they carry information that is just as important as the book. However, the publication of book titles is a very important service, and we shall continue to render that service.

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